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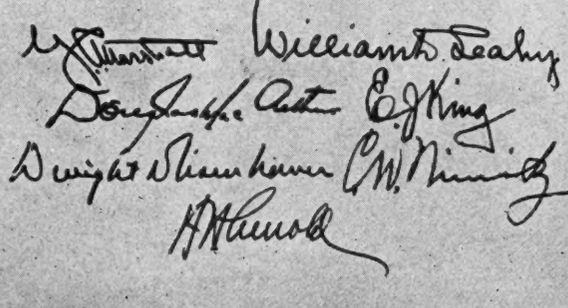
fueloil & oil heat

TO THE AMERICAN PEOPLE:

Your sons, husbands and brothers who are standing today upon the battlefronts are fighting for more than victory in war. They are fighting for a new world of freedom and peace.

We, upon whom has been placed the responsibility of leading the American forces, appeal to you with all possible earnestness to invest in War Bonds to the fullest extent of your capacity.

Give us not only the needed implements of war, but the assurance and backing of a united people so necessary to hasten the victory and speed the return of your fighting men.



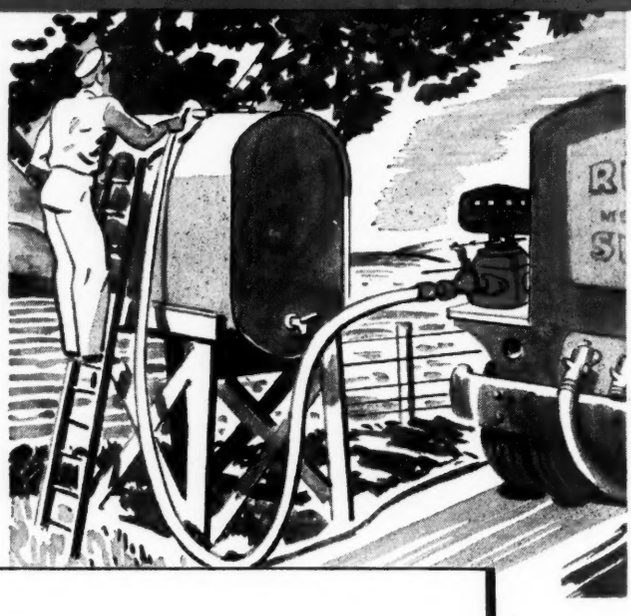
INTRODUCE *GRAVITY REFUELING* TO RURAL CUSTOMERS AND PROSPECTS

As farmers are keenly interested in any new method that saves time and labor, be sure to show them how *"gravity refueling"* speeds-up work and cuts-down manual effort. In this way you'll secure not only their gratitude, but their business, as well. Then, to service elevated fuel tanks on rural routes, convert your present tank trucks to *automatic delivery equipment,* by installing a Brodie QUANTROL Meter in combination with a pump. To get full details, write for *Rural Bulletin No. 200,* today.

...*THEN* SERVICE THEIR NEEDS WITH *BRODIE QUANTROL* METERS

Install
BRODIE METERS
EQUIPPED WITH
BRODIMATIC QUANTROL
(Automatic Quantity Control)

With the Brodie Quantrol an operator merely sets the meter for the desired number of gallons to be delivered. When this point is reached the meter automatically shuts-off—regardless of where the operator may be. Over-filling, spillage, losses and errors are thereby eliminated.



BRODIE METERS

PETROLEUM METERING EXCLUSIVELY

RALPH N. BRODIE CO., INC.
953 61st STREET, OAKLAND 8, CALIFORNIA, U. S. A.

Division Offices: CHRYSLER BLDG., NEW YORK CITY 59 E. VAN BUREN, CHICAGO 5 • 302 SOUTH PEARL ST., DALLAS 1, TEXAS • 164 JACKSON, SEATTLE 4, WASH. 2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA

SINCE 1927

Names in the News

Commander John J. Bergen, USNR, (Inactive), chairman of the executive committee of Gar Wood Industries, Inc., Detroit, has also been elected chairman of the board of directors, it has been announced by Glen A. Bassett, president. Commander Bergen also was named chairman of St. Paul Hydraulic Hoist Co., a subsidiary. He is president of the investment banking firm of John J. Bergen & Co., New York; chairman of the executive committee of United Aircraft Products, Inc., and a director of Blair & Co.

Edward P. Fahey has been chosen division manager for York - Shipley, Inc., York, Pa. *Mr. Fahey* has a varied and successful background of experience in the heating and plumbing industries, and was a pioneer in the oilburning field having started in 1911. He will be employed in the Industrial Division of York-Heat.

Frederick W. Stierhoff has returned to Harvey-Whipple, Inc., as service engineer on special assignments in the New England area. *Mr. Stierhoff* is well-known to the automatic heating trade throughout the eastern seaboard section, having been associated with oilburner manufacturers in that section since 1930. Previously, he was field supervisor for the Shell Eastern Petroleum Co.

fueloil & oil heat

VOL. 4 NO. 2

JUNE 1945

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How TO HANDLE HEAT GENERATION FOR RADIANT PANEL SYSTEMS

Current interest in Radiant Panel heating systems naturally has centered on aspects of heat distribution.

While generation problems are less radical, there are some interesting points with which the architect, engineer, and contractor should be familiar.

How to handle heat generation for Radiant Heating Systems **may help you in this connection. A copy will gladly be sent you upon request.**

H.B. *Smith*

CAST-IRON BOILERS

MAIL THE COUPON BELOW

The H. B. Smith Co., Inc.
57 Main St., Westfield, Mass.

Please send your folder on Generation Aspects of Radiant Heating to:

_____

_____

_____

J. H. Hirsch, president of the Automatic Burner Corp., Chicago, died May 7, of a heart ailment which had made him ill for some time. He was 68 years old, and had taken part in the management of the company almost until the day of his death. Mr. Hirsch became associated with ABC in 1923, and has been president since he acquired an interest in the company. For years he was principally engaged in the paint business, later retiring to devote full time to oilheating.

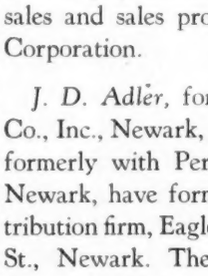
C. A. Olsen, president of the C. A. Olsen Mfg. Co., Elyria, Ohio and president of Henry Furnace Co., Medina, Ohio and *Bruce T. Cunningham,* sales executive of Research Products Corp., Madison, Wis., have been elected directors on the governing board of Indoor Climate Institute.

C. H. Foulds, former sales manager, Furnace Division of Perfection Stove Co., Inc., Cleveland, has recently been appointed general sales manager.

Frank R. Brophy recently has been appointed advertising and sales promotion manager for Burnham Boiler Corp., Irvington, N. Y. For the past seven years *Mr. Brophy* has been actively engaged in sales and sales promotion work for this Corporation.

J. D. Adler, formerly of Holmes Oil Co., Inc., Newark, and *Richard Freeman,* formerly with Perkoff & Forman, Inc., Newark, have formed a new fueloil distribution firm, Eagle Oil Co., at 14 Ferdon St., Newark. The Company also sells burners and burner service.

Oscar E. Swanson has been made service manager of the Evanair Division of the Evans Products Co., Detroit. *Mr. Swanson* has been with Evans Products Co. for the past two years in charge of its Detroit service headquarters. A program of service schools is to be held soon in key distributing points in the U. S. and Canada. *Robert F. Hawkins* will be assistant service manager and directly supervise the service crews in the field.



Bernhardt J. Ottmanns died on April 9. *Mr. Ottmanns* for many years was connected with Hart Oil Burner Co., Peoria, Ill. and later with National Air Oil Co., Philadelphia. At the time of his death, he was senior inspector of naval material for the Government in Philadelphia.

Edward F. Hackett has been appointed branch manager of the New York sales office of The Pacific Steel Boiler Division, U. S. Radiator Corp. *Mr. Hackett* has been employed by the Corporation since his graduation from Clarkson College of Technology. He was previously connected with their New York, Albany, and Harrison, N. J. offices.

P. M. Hutchins has been appointed manager of advertising and sales promotion for National Radiator Company, President R. S. Waters has announced. Formerly advertising director of three daily newspapers in Georgia, Mr. Hutchins has been associated from 1932 to 1944 with the Pittsburgh *Sun-Telegraph,* in recent years as general promotion manager. He already has assumed his new position, with headquarters at Johnstown, Pa.

L. C. Hart, vice-president of Johns-Manville Sales Corp., New York, has been elected president of the Producers' Council, national organization of manufacturers of building materials and equipment.

Arthur J. Duemler has been appointed a direct factory representative for the St. Louis area for H. A. Thrush & Co., Peru, Ind. *Mr. Duemler* has had many years' experience in the automatic heating field in that area.

Frank J. Brandenburg has joined Fluid Heat Division, Anchor Post Fence Co., Baltimore, as a member of the development staff. *C. N. Eckhardt, Jr.,* a 1944 engineering graduate from the University of Maryland, has jointed Fluid Heat as a laboratory assistant.

Arthur Hanson of Waterfilm Boilers, Inc., Jersey City, N. J., was presented with a placque from the plumbers organizations of New York as a memorial to his son, Arthur, Jr., who was killed in action in Germany in March.

	CHECK these EXTRA VALUES	EMERSON-ELECTRIC MOTORS	OK
1	RELIABILITY... Time-tested	54 Years	✓
2	COMPLETE LINE... Sizes 1/200th to 5 H.P.	For All Appliances	✓
3	ENGINEERING SERVICE... Design—Development	Complete Cooperation with Manufacturer	✓
4	TRADE ACCEPTANCE... Sales value in name	Long Established	✓
5	NATIONAL ADVERTISING... Consumer Acceptance	Extensive	✓

These are values you can't SEE in ELECTRIC MOTORS

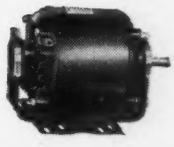
A motor has two jobs—it must power your product and protect your future market. That's why it pays to look *back* of the motor for the extra values that go beyond the physical appearance.... Five hidden values back of Emerson-Electric Motors are tabulated above. Check them carefully—because no matter how good your product may be, it is finally no better than the motor that drives it.

COMPLETE LINE—Sizes 1/250 to 5 H. P.... Particularly valuable to manufacturers producing motor-driven equipment of varying types, sizes and capacities is the wide choice of motors offered by Emerson-Electric, for practically all classes of domestic and commercial appliance drives.

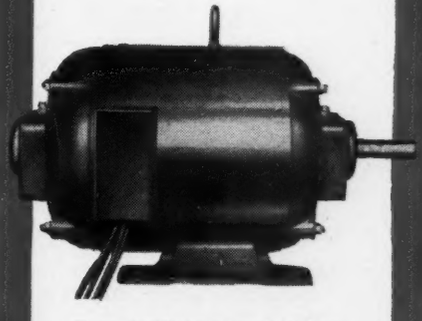
INVESTIGATE *the extra values* back of Emerson-Electric Motors. Give your products this *extra sales value.*

THE EMERSON ELECTRIC MANUFACTURING CO. • ST. LOUIS 3, MO.

Branches: New York • Chicago • Detroit • Los Angeles • Davenport 3



Emerson-Electric split-phase motors are built in sizes from 1/20 H. P. to 1/4 H. P., for operating conditions requiring low-starting-current characteristics.



Emerson-Electric type IR induction-repulsion motors are built in sizes from ¾ H. P. to 5 H. P. They possess high-starting-torque characteristics that are particularly adaptable to commercial drives where an important requirement is the ability to start heavy loads.

Emerson-Electric manufactures a complete line of motors in single-phase, polyphase and direct-current types, in sizes up to 5 H. P.

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MOTORS · FANS — APPLIANCES

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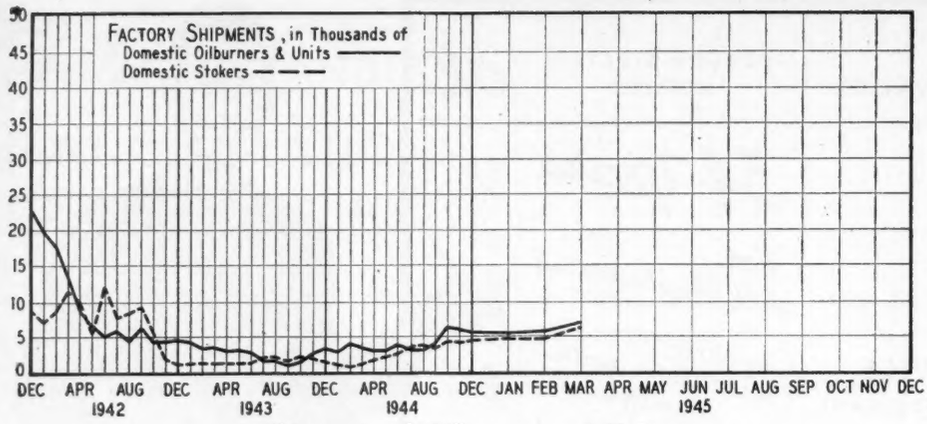
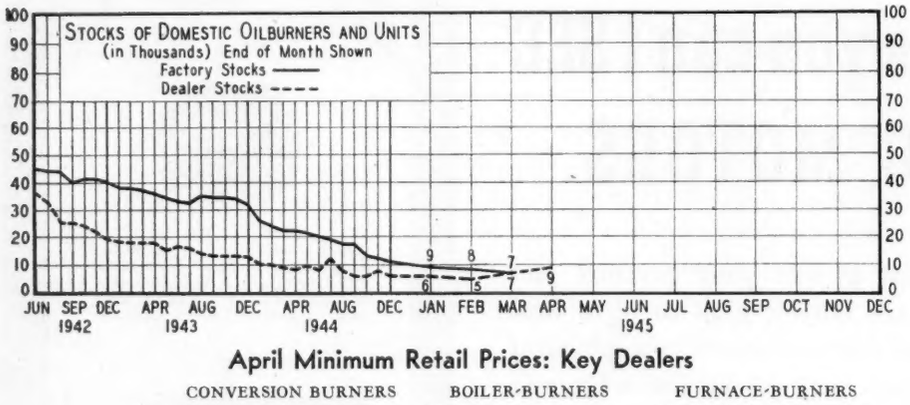

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 104 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	MARCH			THREE MONTHS		
	1945	*1944*	*Percent Change*	*1945*	*1944*	*Percent Change*
Conversion	5,531	2,516	+120.0	13,569	8,202	+ 65.4
Boiler units	1,003	324	+209.2	2,572	867	+196.5
Furnace units	617	677	— 8.8	1,831	1,123	+ 63.0
All domestic	7,151	3,517	+103.2	17,972	10,192	+ 76.4
Commercial	3,164	3,268	— 3.2	10,299	9,186	+ 11.1
Total	10,315	6,785	+ 52.2	28,271	19,378	+ 45.8


STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN SEP DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

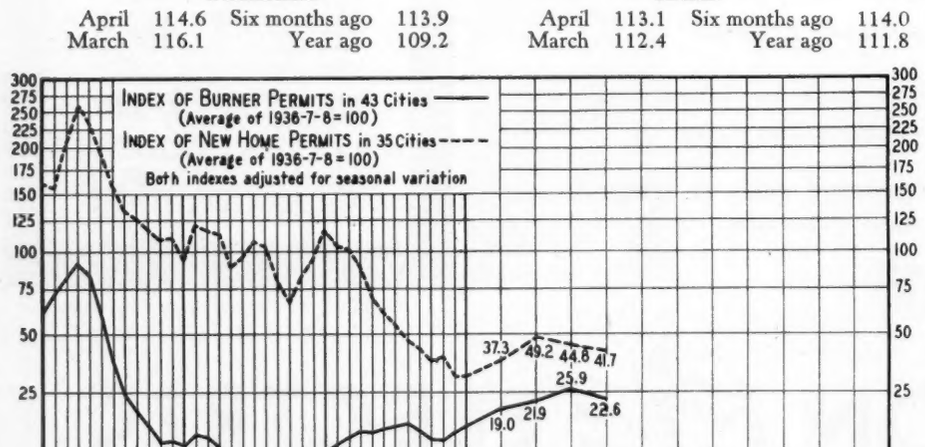
April Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$373	$195	$800	...	$645	$395
Lowest	200	165	400	...	425	265
Apr. Aver.	266	177	510	...	483	357
Mar. Aver.	264	173	499	...	468	331

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more, for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
April	114.6	Six months ago	113.9	April	113.1	Six months ago	114.0
March	116.1	Year ago	109.2	March	112.4	Year ago	111.8


INDEX OF BURNER PERMITS in 43 Cities
(Average of 1936-7-8=100)
INDEX OF NEW HOME PERMITS in 35 Cities
(Average of 1936-7-8=100)
Both indexes adjusted for seasonal variation
37.3 49.2 44.8 41.7
25.9
19.0 21.9 22.6
DEC APR AUG DEC APR AUG DEC APR AUG DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1942
1943
1944
1945

Oilheating Trends

DOMESTIC OILBURNER AND unit installations in April are estimated at 2,714, compared with 1,112 in the same month a year ago. Totals for the first three months were 22,339 this year and 12,759 last year. April installations of reporting dealers were divided: 64% conversion burners, 24% boiler-burner units and 12% furnace-burner units. This further emphasizes the swing to units due to inability to get conversion burners.

BURNER STOCKS: Burner stocks in dealer hands on May 1 are estimated at 9,200, about 2,000 higher than the previous month. This is the second monthly gain in dealer stocks, although the number is still trivial compared to the 38,000 they had in June 1942, the first month after L-74 had stopped burner production. Factory stocks of domestic burners and units on March 31 were 7,157, compared with 7,684 on February 28 and 8,522 on January 31. Only 13% of reporting dealers had no burners on hand this month, compared with 20% the month previous and 28% two months ago.

SERVICE INCOME: April service department income of reporting dealers averaged $3,294, a sharp upswing from $1,987 for the same dealers a year ago. March income was $2,519 and February $2,434.

PRE-SELLING BURNERS: In the March issue of FUELOIL & OIL HEAT was a story about two Baltimore dealers who were taking orders for burners to be installed at such time as regulations are relaxed. All reporting dealers were asked this month if they have tried it, and returns show that 42% have made some such sales, about equally divided between large and small dealers. One dealer with only 400 service customers has 25 such orders for burners.

Of all dealers reporting such sales, 46% get signed orders with stated prices; the other 54% of this group issues a priority certificate without any definite price. These priority certificates are nearly as good as actual orders, as proven by one dealer who has 250 of them—he sent his fueloil salesmen around to interview each priority holder and found that five out of six were willing to sign the order now if the price could be determined. Based upon the reports received it is apparent that oilheating dealers nationwide have presold some 15 to 20 thousand burners to be

installed when restrictions are off. This is not an impressive total, but is perhaps just the start of an activity that may become widespread. Only one-sixth of the dealers who are taking these orders have done any advertising to get them . . . but they sold 71% of the total number sold by the whole group, showing clearly that people are willing to make these commitments if asked to do so.

RATION HARDSHIP: Weighted averages of all reporting dealers show that 20.4% of their customers got extra oil this season on appeals to boards up to May 1. The same group reported 7% on January 15 and 14.6% on February 5, showing that the expected end-of-season rush for extra oil did not materialize, due to the mild spring in most areas. Dealers expect, however, that about one-seventh of their customers will be asking for additional oil for summer hot water.

TAKING OIL CONTRACTS: During the past month there has been a marked drop in dealers' intentions to go after oil contracts this season. In New England, for example, a month ago 14% said they would ask for contracts; this month 11%. Middle Atlantic comparisons are: last month 20%, this month 15%. Middle West: last month 80%, this month 64%. Pacific Northwest, none either month.

OIL SUPPLY OPINIONS: Consumers opinions on future oil supply have much to do with how they handle their rations, how much they try to conserve. In most instances they form their opinions from what their dealers say. Thus, to the extent that future oil supply can be known by Washington, it is particularly important to convince dealers of the facts. Fueloil distributors were asked this month how they believe oil supply next season will compare with the season just ending. Returns show 41% believing it will be more plentiful, 3% less plentiful, 56% about the same.

DEALER COMMENTS: Typical dealer comments on the various questions of the month are . . . "There has never been an oil shortage in Nebraska, no need for rationing at all; 50% of the Nation's oil is in our back yard and 3% of its coal; we're carrying over a half million gallons of oil this season, but haven't had 100 tons of coal in our yard since December" . . . "Don't see how future burner sales can sensibly be made, not knowing material and labor costs" . . . "More burner installations should definitely be allowed to ease the coal shortage" . . . "Customers should be convinced that oil will be scarce until end of Jap war" . . . "We are holding our customers and getting new ones without contracts, which never meant anything anyway if the customer wanted to change" . . . "While there are many burners available without Underwriters label and nameplates at $125 to $140 with controls, labeled burners are almost nonexistent in our market, because of ceiling prices" . . . "Looks like general price weakening, guess the top prices are over" . . . "With the European war over, we feel that refiners will be able to make enough fueloil for both the Pacific war and civilians by December or January."

STOKERS: March shipments of Classes 1 and 2 (domestic and small commercial) stokers were 6,430, of which 261 were for anthracite and 6,169 for bituminous coal. This compares with 1,452 in March last year, divided 123 anthracite and 1,314 bituminous, a gain in totals of 292%. For the first quarter bituminous stokers shipped this year were 15,326, anthracite 928; last year 3,366, and 348.

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
April		4 MONTHS			April		4 MONTHS	
1945	1944	1945	1944		1945	1944	1945	1944
0	..	..	..	Albany, New York	..	..	..	..
..	..	..	..	Baltimore, Maryland	27	0	28	0
..	..	..	..	Binghamton, New York	0	1	0	1
36	22	..	..	Boston, Massachusetts	0	0	0	0
12	4	48	25	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	9	13	..	41
..	..	..	..	Des Moines, Iowa	3	1	3	1
14	4	..	80	Detroit, Michigan	86	282	..	1371
5	3	14	6	Elizabeth, N. J.	0	0	..	0
1	5	21	23	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	0	0	1	0
..	..	..	..	Hackensack, N. J.	2	0	2	0
4	1	29	..	Hartford, Conn.	..	..	..	..
3	0	12	1	Irvington, N. J.	0	0	0	0
..	..	..	..	Lynn, Massachusetts	0	0	0	0
2	5	..	11	Milwaukee, Wisc.	11	2	..	5
12	47	66	62	Minneapolis, Minn.	57	1	103	1
1	2	11	12	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	0	0	0
23	..	..	..	Newark, New Jersey	..	..	..	..
27	0	105	41	New Bedford, Mass.	..	..	..	..
2	0	14	2	New Haven, Conn.	..	..	..	..
0	0	..	0	New Orleans, La.	..	..	..	..
11	0	70	..	New Rochelle, N. Y.	0	0	0	0
89	16	..	32	Manhattan, Bronx, Rchd	..	..	..	..
1	4	..	8	Norfolk, Virginia	3	2	..	3
0	0	1	1	Oakland, Calif.	..	..	..	..
5	3	32	45	Omaha, Nebraska	27	12	83	196
0	0	1	0	Orange, New Jersey	0	0	0	0
8	0	17	5	Paterson, N. J.	0	1	..	1
..	..	..	..	Plainfield, N. J.	0	0	0	7
1	1	19	11	Portland, Maine	0	0	..	0
75	24	147	42	Portland, Oregon	20	74	66	282
8	3	29	..	Providence, R. I.	0	0	0	0
..	..	..	..	Reading, Penna.	0	0	0	0
1	0	1	0	Richmond, Virginia	129	0	252	0
2	0	8	0	Rochester, N. Y.	..	..	..	..
8	3	12	11	Rockville Center, N. Y.	0	0	0	0
2	0	8	0	Salem, Massachusetts	0	0	0	0
6	3	39	22	St. Louis, Missouri	0	0	..	0
9	1	43	16	St. Paul, Minnesota	32	0	..	0
3	4	14	9	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	161	152	427	482
..	..	..	..	Springfield, Mass.	3	5	3	6
0	5	22	9	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, New York	17	21	23	21
..	..	..	..	Trenton, New Jersey	0	0	3	0
..	..	..	..	Utica, New York	0	0	1	0
19	11	103	37	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	0	0	0	0
4	1	20	9	White Plains, N. Y.	0	0	0	0
1	0	6	3	Wilmington, Delaware	0	0	0	0
29	8	84	35	Worcester, Mass.	..	..	..	..
401	180	868	427	*Totals*	587	567	995	997
+122.9		+103.2		*Percent Change*	+3.5		—0.2	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

TODAY LOOK TO for OIL

This Trademark

The Master Kraft trade mark on oil heating equipment has long been a symbol of top-notch quality and precision performance.

Dealers operating under this trade mark have made money, built new customers, increased their business each year.

The equipment bearing this trade mark has always been *good merchandise,* backed by the kind of advertising and sales promotion that *sells goods.*

NOW—with the new postwar Master Kraft line, profit opportunities will be greater than ever. This new line will sell easily, fast. It is different . . . not a prewar line with a new face—but new advanced design in conversion burners and complete packaged units *that give out more heat for their size than anything you have ever seen.* A new line—yes—but thoroughly tried out during the war. Our production of compact aircraft heaters for Uncle Sam has pointed the way to these new Master Kraft products. This new line is sensational in design, and priced *competitively.* You can make money with it. Mail the coupon for details.

MAIL THIS COUPON TODAY

Harvey-Whipple, Inc., Dept. F. O.
Springfield, Mass.
Send me full details of the sensational NEW Master Kraft line.

NAME .....
STREET ..... STATE .....
CITY .....
MAIN LINE OF BUSINESS .....

MAIL THIS COUPON TODAY

For Lower Heavy Oil Bills

Step-by-Step Plan Improves Commercial Installations

by
J. W. Schulz

ORDINARY METHODS of providing oil heat for a large building do not provide lowest possible oil consumption. They are not aimed to hit the bullseye of fuel economy, and they don't hit it by accident. Consider the oil-heated buildings in your locality—the schools, institutions, theatres, apartment houses, business buildings, and factories. Wouldn't you say that in most of them the oil heating equipment is in the class of "just ordinary?"

The chances are that one of these buildings, which can be considered typical, had a fairly good steam heating plant designed with coal firing in mind, and of the type often installed in about 1930. Then, in the coal boiler, which at the time was either brand new or fired by coal previously, an oilburner was installed. The dealer had sold the burner installation at a price, and he was in no position to aim for sky-high fuel economy. His price did not include time-taking fancy trimmings, but was based on providing a representative and dependable oilburner installation.

The dealer did not worry, for example, about figuring the firing rate carefully before he designed the firebox; he just took a good guess at it. He had the firebox built of the ordinary firebrick commonly used for commercial burners. He did not study the details of the heating plant, for it had been installed by another contractor and if it would work well with coal, why it should work better with oil. The usual simple room thermostat came with the oilburner, and the dealer installed it without worrying too much about finding the best thermostat location. The janitor or occupants of the building would work out a way to regulate the thermostat and get about the right amount of heat. The oilburner seemed to run fine when it was first fired, so the dealer then turned it over to his service department and forgot about it himself because his main problem was to sell more burners.

If today you will single out just one of these "ordinary" commercial installations in your locality and make a technical check-up on it, the chances are you will conclude that by making determined efforts to arrive at real fuel economy you can cut the oil bills by 20% to 45%.

"You can't cut the fueloil costs of the large buildings in this area by 20% to 45%," an oil burner dealer recently declared after I had described a typical installation.

For the moment I left him unanswered and went on to describe the 12-point check-up covered by the accompanying diagram.

A little later he explained, "I didn't know you were going to recommend such thoroughness. Covering all those points, sure you'll save one-third to half the oil used by almost any commercial burner. To begin with I was thinking only that improving just the CO_2 readings of the burners around here would not save 20% to 45% of the oil."

Checks Most Savings

As a matter of fact, this 12-point plan does not cover every item that bears on fuel economy and proper heating. It covers the main items which it usually pays to investigate. The most fueloil should be saved for the fewest dollars spent on improvements. Studies of large heating plants can be expected to reveal the need for important repairs; for new features to provide safe, dependable and fully automatic operation; and for worthwhile heating specialties of the types developed or improved in recent years. Once his attention is concentrated on the oilheating plant, the owner may want it put in A-1 condition. For many plants, this means installing new equipment and putting in working order equipment that has not worked properly for years. The project usually is best started by aiming to save considerable fuel as the result of making three or four well-defined and limited improvements. The attention of the owner of a building generally can be attracted by announcing, for example, that taking just three simple steps at a cost of $500 will save $500 worth of oil during six months of the heating season. At some later date it may be necessary to inform him that taking half a dozen more complicated steps in addition will modernize all his equipment and produce additional oil savings.

The 12-point check-up deals in these terms:

1. *The oilburner.* Start your survey by making note of the make, model, age, and condition of the oilburner itself. Dividends in fuel savings result from replacing an obsolete burner. For minimum oil bills, the burner efficiency must be the highest attainable. Just as it is outside the realm of good economics to try to make a 1930 automobile equal to a recent model, it is not good sense to attempt to modernize certain old burners. In addition to the replacement of worn parts, this would call for oilburner engineering design work. Such work can be done economically at a burner factory where it will serve to improve thousands of new models, but it can't be done economically on the old installation to improve just one old burner. Replace an installed burner, then, if because of design improvements a later model can give efficiencies genuinely higher.

In checking the oilburner, consider switching the installation to heavier fueloil, if a heavier grade is available at a lower price than the present oil.

2. *The boiler.* For low oil bills, the boiler must be well suited to oilfiring and

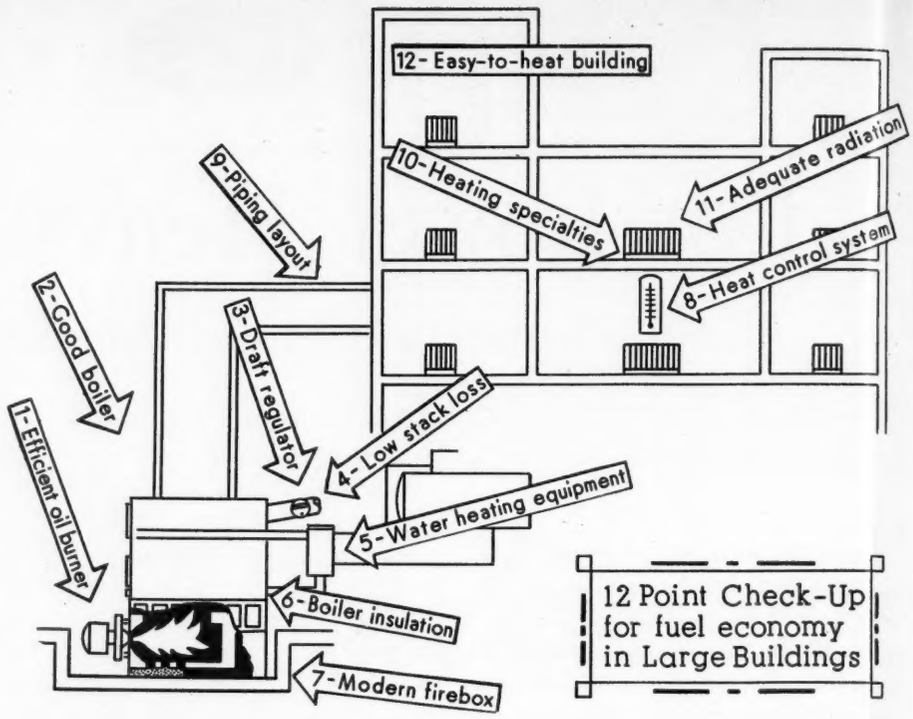
of generous size for the load it carries. With the gph rate correct for the heating load, high stack temperature is the sign that shortcomings in the boiler are wasting oil, and low stack temperature proves the boiler absorbs efficiently the heat released in it by the oil flame. Where factual data are needed to determine if a boiler should be replaced by a larger or more modern unit to save fueloil, assistance from an oilheating expert armed with combustion testing instruments and a knowledge of heating loads and gph rates is practically indispensable. When making a survey, therefore, be especially thorough about obtaining data on how well the boiler is doing with respect to fuel economy.

3. *Draft Regulator.* Has the installation a draft regulator capable of controlling the over-fire draft closely and dependably? If not, the installation of a modern, well-designed draft regulator may be the big thing needed. Field surveys show that in certain cities most of the commercial and industrial oil burner installations either have no draft regulators or are equipped with the cheapest and shoddiest obtainable. If that applies where you do business, the best way to reinforce your fuel economy program may lie in getting in touch with a manufacturer of well-engineered commercial draft regulators and securing an education for yourself on the technical aspects of conserving oil by controlling the chimney draft properly.

4. *Low Stack Loss.* For the oil consumption to be low, the loss of heat up the chimney must be low. The only way to check on stack loss (say, less than 25% of the total heat for low or perhaps 35% to 60% of the heat in the oil, for excessive stack loss) is to use combustion testing instruments. The data these instruments obtain must be part of any worthwhile report on the possibilities of saving fueloil in a particular building.

5. *Water Heating Equipment.* In a good many modern apartment houses, you can figure that 20% to 30% of the fuel-oil purchased should be charged up to heating water for the hot water faucets. In hotels, institutions, and hospitals, 25% to 45% of the fueloil used may be burned to heat water.

Where a heating boiler provides year round hot water, you can figure that if the water heating efficiency runs exceptionally high, in summer the burner will run a total of about one hour a day to heat water. For example, a burner firing 18 gph may use 18 gallons of oil per day, in summer when the boiler is not providing steam for heating. If the water heating efficiency is low, twice that much oil may be used per day in summer.



Obviously, the fuel used for heating water in certain large buildings costs an important amount on a yearly basis compared to the money spent on the fuel which serves to heat the building in winter. To replace inefficient water heating equipment with genuinely efficient equipment can cut the yearly fuel bills appreciably. By all means, then, go over the water heating arrangement with a fine-comb when you make your survey. Be well posted on the technicalities, and plan to install the types of equipment that provide an abundance of hot water at rock-bottom fuel cost.

6. *Boiler Insulation.* Efficient boiler rooms have highly effective insulation for not only the boilers, but also for all steam, hot water, and condensate piping, and for hot water storage tanks. If you aim for maximum fuel economy in commercial boiler rooms, you can count a ½" coat of ordinary asbestos cement as no insulation for a heating boiler or hot water tank, and you can figure that the cheapest pipe covering is inadequate for steam and hot water lines. Fuel bills often have been lowered by as much as 15% by doing a thorough job of replacing ordinary, deteriorated boiler room insulation with one of the extremely effective types of insulating material, such as rock wool products, for example. There are two reasons for tearing the old asbestos insulation from certain cast-iron heating boilers and applying insulation of maximum effectiveness. First, the new insulation saves fuel of itself by almost eliminating loss of heat from the outside of the boiler. Second, and on some installations more important, the old insulation must be removed to permit sealing properly the air leaks between the sections of a cast-iron boiler.

Check the insulation on the steam, hot water, and condensate lines throughout the building, as well as in the boiler room itself. At least, plan replacement of damaged insulation.

To add the finishing touch, particularly if the boiler room is overheated although the boiler is well insulated, plan to apply special high temperature insulation to the insides of the firing and flue doors of the boiler.

7. *Firebox.* The oilburner can attain no higher combustion efficiencies than the design and construction of its firebox permit. When you make your survey, ascertain and record the firebox dimensions, the type of refractory material of which the firebox is built, and the condition of the refractory material. Check the dimensions later against what you find proper for the gph rate needed to carry the load on the boiler.

The best in a firebox, installed to replace a "just ordinary" firebox, often cuts the fuel consumption by 15% to 30% when coupled with the benefits of a properly reduced firing rate, made possible by higher efficiency after the changes. The use of refractory material which comes to red-heat quickly after the burner starts is extremely important. In one instance, the use of such material together with two or three tricks which arrive at higher combustion efficiencies reduced the oil consumption by 35%, although the five-year-old combustion chamber which was torn out was in good condition and of tolerably good design. The big difference between the old and the new fireboxes lay in the nature of the refractory material. This difference accounted for most of the 35% fuel savings arrived at simply by replacing the old firebox and tuning the oilburner.

8. *Heat Control System.* Where a plain or clock-type room thermostat, of the type used in residences, is used to start and stop a commercial burner using more than 10,000 gallons of oil a year, a careful study should be made to find out if one of the modern large-building heat control systems should not be recommended. Where the simple room thermostat causes a burner to run on pressure control all day when the outside weather is below about 35°, the installation of the most economical type of large building heat control system may cut the oil consumption 20% to 40% with no other change to the installation or the heating plant.

Check Apartment Thermostats

In apartment houses, check particularly to find out if the room thermostat is located in a hall or in the janitor's apartment. These locations are notorious oil-wasters.

By all means write to manufacturers who are bringing out new types of controls for larger buildings. Make sure you obtain a full understanding of what is modern today in commercial control systems. Commercial burner operation will be improved tremendously by special heat controls which are really engineered to match the requirements of large buildings.

9. *Piping Layout.* Faults in the layouts of the supply and return piping are responsible for high oil bills in many steam heated buildings. The steam piping may be suited to hand-fired coal but not to intermittent oilburner operation. With proper piping and with heating specialties suited to oilfiring, radiators far from the boiler room should heat as well with short "on" periods (say 15 to 20 minutes long) as the radiators close to the boiler.

10. *Heating Specialties.* It is no myth that fuel is wasted when the thermostatic radiator traps used in certain two-pipe steam plants go bad. Learn how to check the traps of two-pipe steam plants, or you cannot cope with one of the most important fuel-wasting defects characteristic of such heating plants. Also learn the A-to-Z of improving two-pipe steam plants by adding radiator feed-valve orifices to systems not already equipped with them. Excellent distribution of steam to all the radiators in the system, which in many plants can be arrived at only through installing the proper orifices, is absolutely necessary for economical performance where the starting and stopping of a burner regulates the amount of steam fed to the radiators.

Proper Venting Saves Oil

Knowledge of steam main quick-vents and adjustable radiator vent-valves is needed to handle fuel conservation problems in the building heated by a one-pipe steam plant. Where the steam piping and radiators of a one-pipe steam plant are adequate and properly planned, faulty distribution of steam to the radiators generally is caused by improper venting. Thousands of large oilfired one-pipe steam plants are giving poor results today because the venting specialties in them are suited only to hand-fired coal. Learn the science of air-venting such systems in the way that gives good results with oilfiring, and you may find cases in which the application of your knowledge can give improved heating comfort together with oil bills one-third lower.

11. *Adequate Radiation.* You can't go far in checking large buildings before you find one in which the boiler must be "pushed" in cold weather simply because one wing or floor of a building, or a few important rooms, are slow to heat although all the radiators become as hot as they should. The radiators do not fail to heat in the chilly parts of the building; they simply are undersize for the heat losses. Installing additional radiation to give easy heating of rooms where chilliness was the complaint before is one of the most effective ways to lower the oil bills of certain buildings.

12. *Easy-to-Heat Building.* As with homes, the most effective way to cut the oil bills of some large buildings is to reduce the heat losses by eliminating defects and shortcomings or applying effective building insulation. There may be no better way to spend a few hundred dollars for the sake of cutting fuel costs, so do not fail to recognize an opportunity of this type when it stares you in the face.

No Season for Saving

If you can talk intelligently to owners of large buildings about how money can be invested to bring handsome dividends each year in the form of fuel savings, any year is a good year for you to go after business. There does not have to be a war on, and there does not have to be a fuel shortage. Of course, you need more Know-How in the field of commercial installations than ordinarily is needed for domestic oilheating work. You need more facts, fewer hazy guesses and opinions. Businessmen have a nasty habit of getting down to brass tacks when you advise them to invest large sums of money. The one good thing about them, on the other hand, is that usually they are willing, if not anxious, to make a good investment when it is proved they have the opportunity, and usually they find it possible to put the needed amount of money into the investment.

The equipment dealer who succeeds in cutting the fuel bills of half a dozen well-known large buildings by 15% to 45% gains advantages in addition to the profits that naturally should come as a result of his fuel conservation activities. He usually gains prestige and respect. He is more likely to be believed than his competitors when he announces that because of his Know-How the installations he sells give lower fuel costs than ordinary installations.

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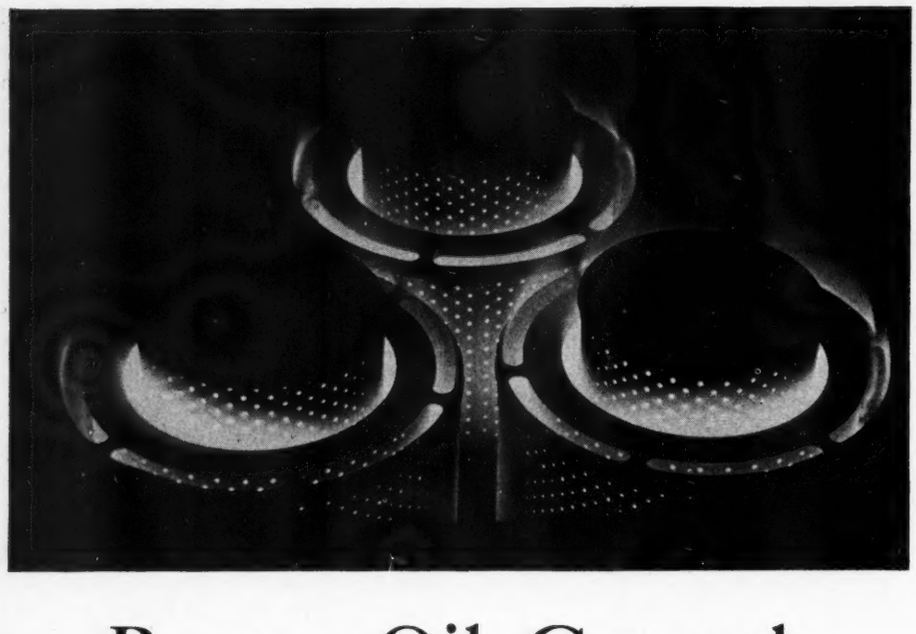
J. Howard Marshall, president of Ashland Oil & Refining Co., Ashland, Ky., and formerly chief counsel for PAW, has been appointed by President Truman as one of four American members of the United Nations Reparations Council, to determine what reparations shall be imposed upon Germany. The 21-member Council was provided for at the Yalta Conference. Marshall left with the other Americans for Europe in late May.



Range Oil Growth

Burners, Kerosene Becoming Big Business

by

Fred E. Bergfors*

DISCOVERIES AS WELL as inventions cause economic changes. Sometimes the change is gradual; sometimes the change is radical; sometimes it fluctuates in a sort of up and down rhythm. Economic fluidity results and the manufacturer, the merchant, and the consumer are dragged away from the mummified past. A certain kind of economic safety depends upon the wise use of quick, vital, kaleidoscopic changes. When oil was first discovered in this country, kerosene became one of its most important by-products. Its fluctuation has been of the third variety, a sort of up and down rhythm. Once its sale remained at the down-point a rather long time, but New England brought it up again by finding different ways of using kerosene.

In the latter part of the nineteenth century, kerosene was shipped and delivered to the country stores throughout New England in wooden barrels. Later, wooden barrels were displaced by five gallon sheet-metal containers equipped with a faucet. This change introduced the horse-drawn sheet-metal tank-wagon, also equipped with a faucet. The invention of the automobile displaced the horse-drawn tank-wagons. At this point of change, the demand for kerosene declined and the demand for gasoline increased.

Lighting with kerosene was popular until the distribution of gas changed its popularity. Soon after, kerosene cooking-stoves were invented and perfected. These stoves ranged in size from one to five burners. They were used extensively in camps and beachhouses. The use of these stoves in well-equipped homes proved valuable as auxiliary cooking units, especially during the hot weather, since cooking with coal or wood heated the kitchen too much and too long. The control of heat in kitchens was quicker and easier with kerosene.

As the gas-lines of the local gas companies were extended, kerosene cooking went the way of kerosene lighting. They were superseded by gas-lighting and gas-cooking, especially in well-equipped homes. This change continued until the opening of World War I. Again invention developed another change, and range oil burners began to be installed in the fire box of coal stoves, now commonly known as the kitchen range. This change was easily accomplished by removing the grates and installing two burners, which could be operated singly or dually, depending upon the amount of heating or cooking desired. These burners received their supply of kerosene from a one-quarter inch copper-tubing connected to a two-gallon glass bottle erected on a stand at the rear of the kitchen range. The glass bottle contained a twenty-four hour supply which was sufficient, unless the weather was cold. The bottle was filled once a day from a fifty or fifty-five gallon spring faucet drum kept on a stand in the cellar. Two drums representing over one hundred gallons could be found in many cellars. These drums were kept full by the kerosene dealer on his usual route-day in the neighborhood. At first, these tanks were filled by canning or carrying the kerosene in five gallon measures from the dealer's tank-truck. During the last few years, this type of delivery has almost disappeared. Now, the kerosene is run in by a hose pulled from an automatic reel installed on the truck, after being measured through a ticket-printing meter. The length of this hose varies from thirty-five to one-hundred feet.

Conversion to kerosene was gradual; consequently, the coal and gas companies did not immediately notice their loss of business. When this loss became evident, the gas and coal companies presented several forms of organized resistance, but the inroad was only delayed, not stopped. When World War II was declared, the business loss to coal and gas companies became a serious problem. The coal companies capitulated completely by adopting the kerosene business, erecting tank, and adding other necessary equipment for distribution. The gas companies are still floundering trying to find a way to prevent the loss of their gas-cooking business. I believe they will not succeed.

Supply Domestic Hot Water

Not so many years ago, the chief interest of the average New England housewife was her kitchen; consequently, the kitchen range held a position of much importance. These housewives were reluctant to install gas ranges, which neither supplied hot water nor heat. The several advantages of the old burner range impressed them and they were rather easily converted to its use.

The installation of these oil burners is simple but exacting. The warmth they distribute, not only in the kitchen but in ad-

*Several readers of FUELOIL & OIL HEAT have asked the editors for more material on range burner and kerosene distribution. Mr. Bergfors, upon request, has written a basic article covering the broader aspects of the growth and present activity of this segment of the oilheating industry. Particularly qualified by long experience, Bergfors is president of Quincy Oil Co., one of the three or four largest range oil suppliers in the country, with tidewater terminals at Boston and Quincy harbors.

joining rooms, is a matter of much satisfaction.

This phenomenal conversion to kerosene was not accomplished without considerable effort by the oil companies and dealers. The burner most extensively developed and used is known as the perforated sleeve type burner. It operates on the vaporizing principle by contact with a hot surface. In the process of vaporization, a distilling process takes place, carbon residue is left at the point of vaporization, and the design of the burner should be such that there can be a considerable accumulation before cleaning is necessary. Cleaning of the burner is always necessary after extended use. The interval of time depends upon the type of installation, the type of fuel, and the efficiency with which the burner is operated. Many installations will operate perfectly for a full season; others, a year or more without any attention while using over one thousand gallons of kerosene. Installation is very important. One should not be fooled by the apparent simple looking equipment and think any plumber or heating man can make a satisfactory installation. It really takes an experienced man who knows the difficulties that may be encountered.

Early Operating Troubles

During the 1920's there were operational difficulties caused by careless, imperfect installation, and the use of makeshift materials. Today, the necessary materials are available. It is important that the bottle-supply and the burner be installed exactly level, that the removal of grates and ashpans leave the firebox absolutely clean. This means that every corner and crevice should be inspected, otherwise dirt or ash will deposit itself later on the burner surface causing clogging and necessitating another service call with complete removal and replacement of the burners being necessary. There is also the chimney stack draft-control adjustment to make. The inverted bottle reservoir, located in the rear of the range on a steel stand, must be adjustable to the proper height to allow the constant and regular flow of kerosene at every level under slightly different pressures. Many of the burner installations today have discontinued this kitchen reservoir and have in its place a small automatic pump connected with the cellar reservoir, which maintains only one quart of kerosene in the kitchen instead of two gallons.

Range Oil Sales Growth in Five Prewar Years

1936	.....	27,292,000 barrels
1937	.....	32,259,000 barrels
1938	.....	33,707,000 barrels
1939	.....	37,061,000 barrels
1940	.....	44,692,000 barrels
1941	.....	46,110,000 barrels

When compared with coal, you can see how the modern range oil burner emerges as a completely automatic unit of quicker action and better control, practically eliminating soot and dirt accumulation.

Space Heater Development

The parlor stove was also converted. The installation of one large size burner for kerosene made the stove clean, automatic, and completed the heating requirements of the entire house. Since then, great advance has been made in the development of these stoves into various styles. There are many sizes and styles. Beautiful cabinet type heaters having one or two burners; some having pipe ducts and fans that can blow and carry the heat to the most inaccessible corners. Cold air is drawn from the floor to provide even heat. I understand that by the same method huge models have been made available, since the war began, capable of efficiently heating large buildings and factories.

Just prior to the war, the normal way for kerosene to come into New England was by tankers, which unloaded at ocean terminals owned by independent oil distributors and marketers. From these terminals truck-tanks were loaded. These tanks were owned and operated by hundreds of dealers who sold the kerosene within a radius of from three to five miles. The independent oil terminal marketers then established what they called "inland stations" where they transported kerosene to an auxiliary depot where another group of dealers obtained their supply at a price in tenths above the ocean terminal price, the addition merely representing transportation and handling at the inland depot. This type of operation fanned out away from the tanker terminal for as great a distance as 150 miles.

There are thousands of range kerosene dealers operating tank-trucks, from old jalopies of vintage unknown to the very latest streamlined vehicle obtainable, equipped with latest ticket printing, city-sealed and inspected meter, and automatic hose reel with a considerable length of hose. Many of these proprietors are very proud of their equipment and spend much money painting their trucks with colors so bright and striping so vivid that any local fire department would be envious. Practically all the truck chassis used are of the 1½ ton capacity. The tanks installed on these trucks vary in size from 275 gallons to the maximum of 1,000 gallons. The larger tanks usually have more than one compartment. The majority of these trucks, however, average about 750 gallons. The smaller tanks are usually oblong and are installed on the front of the truck chassis. They measure about 30" wide, 48" high, and 60" long. In the immediate rear of the tank is placed a platform body with sides, used chiefly for ice or other products that may be merchandised simultaneously by the vendor. I have seen it used for ice, coal, vegetables, fruit, or expressage. Such range oil dealer outfits seem like a citified version of the old country-route oil trucks used in farm areas.

Single Truck Operators

The majority of these range oil dealers operate only one truck, a very few too. With the operation of more than one truck, kerosene sales diminish in percentage to fueloil, coal, masonry supplies, and other similar products. Kerosene range oil business is conducted almost exclusively by lone proprietors. During the busy season, when the weather is uniformly cold, it is customary for a man and helper to deliver three loads a day. For example: a man with a 900 gallon tank-truck delivering three loads a day distributes 2,700 gallons. About 90% of this is run into consumers' storage through a hose; the other 10%, it has been found necessary and advantageous to carry in cans. When one knows that many deliveries are as low as 25 gallons, and the largest not over 100 gallons, and the overall average is about 35 or 40 gallons, one realizes how many stops must be made and how fast such a unit must operate. As cold weather tapers off, sales and deliveries naturally diminish until such time as the helper is released and the proprietor operates alone again. Lately, there has been a tendency for a number of gasoline filling station owners to go into the business of operating a kero-

(Continued on page 72)

Directors of OHI *present at Chicago.* STANDING (L. TO R.) *G. E. Hochstein (Heil); J. A. Collins (Frontier); J. C. Yeomans (Multnomah); R. S. Bohn (Preferred); S. A. Loeb (Webster); J. F. Corrigan (Petro); E. E. Hadlick (OHI of Minn.); Alexis Doster (Torrington); C. R. Collins (May).* SEATED: *P. K. Addams (Fitzgibbons); C. R. Jonswold (Triangle); J. H. Van Sciver (Bethlehem); W. A. Matheson (Oil-O-Matic); C. E. Lewis (Perfex); W. A. Kemp (Sundstrand).*

OHI Reviews Progress at Meeting; Matheson Elected

PROGRESS DURING THE LAST YEAR was reviewed and plans discussed for the year ahead as officers and directors of Oil Heat Institute of America held the 22nd Annual Meeting at Chicago, May 8. Due to travel restrictions, members were encouraged to vote by proxy on questions submitted earlier by mail.

W. A. Matheson, president of Williams Oil-O-Matic Heating Corp., was elected president of OHI, succeeding C. E. Lewis, Perfex Corp., who has headed the organization for three eventful years. J. H. Van Sciver, president of Bethlehem Foundry & Machine Co., was named vice-president. C. R. Jonswold, Triangle Oil Company, succeeded Frank E. Spencer as national chairman of the Distribution Division, and William A. Kemp was re-elected chairman of the Accessory Division.

J. C. Yeomans, Portland, Ore., was elected vice-chairman of the Distribution Division for the Pacific Coast area, replacing Maurice N. Vining, Seattle, and J. A. Collins, Buffalo, N. Y., was elected vice-chairman for the East, replacing G. J. Burrell, Harrison, N. Y. A. E. Hess, managing director; C. F. Curtin, secretary-treasurer; and G. T. Kaufman, technical secretary, all of the New York headquarters staff, were reappointed.

Sixteen members of the Board of Directors were reelected. New members of the board are S. H. Shipley, York Oil Burner, York Pa., for the Manufacturers Division; V. K. Smith, Cleveland, and J. W. Owens, Chicago, for the Accessory Division; and E. P. Hacker, Portland, Me.; J. C. Yeomans, Portland, Ore.; J. A. Collins, Buffalo; F. C. Haab, Philadelphia; J. W. Warner, Washington, D. C.; and C. R. Jonswold, Chicago, for the Distribution Division.

Mr. Lewis reviewed the work of the last year from a written report which he had made previously to the membership. He commented particularly on the excellent work done by the Engineering Committee under Frank Faust.

One of the chief accomplishments of the Engineering Committee this year has been the design of a Standard Reference Oil Burner which is intended to be to the oilburner and fueloil industries what the Waukesha engine was to the automobile and gasoline industries; a standard by which the burning characteristics of oils can be judged, and to provide a standard by which the characteristics of oilburners may be determined when using a reference oil. This work has not been fully completed, and drawings are not yet ready for distribution.

Members of the Distribution Division voted to increase their dues to $5 a year for each dealer in their memberships, this additional money to be used to further expand the work of the Division.

The Advertising Correlating Committee of the Distribution Division has started work under the chairmanship of Harold M. Mottram, Milwaukee. It is contemplated that advertising and publicity done by one member association be passed on to other member associations within the Institute for such value as the ideas and presentations may be to the other localities. The committee displayed a seal that is to be made up for transfer to trucks, windows and other facilities.

(*Continued on page 73*)

Manufacturing Restrictions Off Burners; Still on Oil

RESTRICTIONS on the manufacturer of domestic oilburners was lifted May 11, when L-74 was revoked. Restrictions also were lifted on domestic stokers, warm air furnaces, floor and wall furnaces, low-pressure steel and cast iron boilers and commercial cooking equipment, but it is believed that the lifting of governmental restrictions will have little effect on production in the immediate future. The so-called open-ended production programs will not carry priority assistance in getting materials, and on some items, notably controls, motors, and castings, orders carrying ratings of less than AA-1 get little attention.

Through the third quarter this year, and possibly for the fourth quarter as well, allotments of oilburner production will continue to be made by WPB under the program that allowed 30,000 burners per quarter. Manufacturers having quota allotments from WPB's Plumbing and Heating Division will have the advantage of the regular AA-3 priority rating. All others must take their chances on finding materials in the open market without priority assistance.

The lifting of L-74 to permit oilburner production does not alter in any way PAW's PDO 13, which prohibits the delivery of fueloil to new installations unless specifically authorized by PAW. It still is

(*Continued on page 70*)

Oilheated Floors

One Story Basementless Building Has Radiant Heat

by
W. L. Redding

First Step: *Wrought iron pipe coils are laid on a rip-rap base.*

IN THE CORN and cattle country of northeastern Iowa there is a very unusual oilheated building.

Physicians John O. Eiel and M. O. Eiel have established in the small town of Osage, a medical headquarters known locally as the Eiel Clinic.

It is not unusual for a corn and cattle country town of 3,200 population to have good medical facilities. However, it is unusual to find two physicians having an appreciation of radiant heating—the modern method of heat distribution—to the degree that they installed this heating system to provide comfortable warmth in the ultra-modern clinic building which they erected.

The Eiel Clinic is a radiant heated structure with fueloil supplying the heat required for the rather severe heating season which is experienced close to the Minnesota border.

When the Eiels decided to erect this new building they wanted it to be the "last word" in efficiency. They wanted a restful waiting room, an efficient-appearing office, workable treatment rooms and an over-all design which would make their Clinic distinctive and yet architecturally efficient.

They choose, through the assistance of Robert Blandin, Osage architect, a one-story, flat-roof structure having large areas of glass and with generous utilization of decorative brick. They also selected a Timken oilburner and boiler.

The Eiel Clinic is a basementless building. When construction started, the ground was levelled off and a layer of rip-rap was spread over the area to be covered by the building. Upon this rip-rap were laid sinuous coils of 1¼" wrought iron pipe which had been cold-bent to shape by the Globe Machinery & Supply Co., of Des Moines.

O. D. Kingsbury, heating contractor of Osage then had the wrought iron coils welded, while they lay on the rip-rap, into a continuous piping circuit which started at the hot water boiler and, after covering the entire floor area of the building, returned to the boiler.

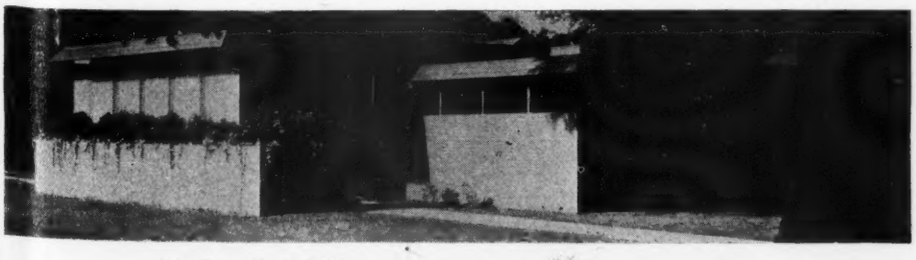
After the coils had been tested for tightness and proper heat distribution of the water being carried, a layer of gravel enclosed the piping. Wood forms were set up and the building's concrete floor was then poured into place.

One of the advantages of this type of heat distribution is that the heating plant can be virtually completed before the walls or roof are started. Building construction in winter months is frequently expedited by having heat available to dry plaster or paint quickly, and to make working conditions more comfortable for those in the building trades.

The Timken boiler and burner are regulated by controls made by Minneapolis-Honeywell, Penn and Hoffman, the latter supplying a Force-Flo venturi circulating pump.

The completed building has a noticeable absence of radiators in the attractive rooms within the structure. This situation allowed for free placement of furniture and medical equipment. It also gave assurance of walls and ceilings, now sparkling in newness, of remaining clean for a much longer time than would be expected had visible heat distributing units been installed.

Another attribute claimed for the radiant heating in the Eiel Clinic is that should there be need for future remodel-



Modern Eiel Clinic, *Osage, Ia., has large glass areas.*

ing—erecting new partitions, cutting new doorways — such construction can be quickly accomplished without making major changes in the heating system.

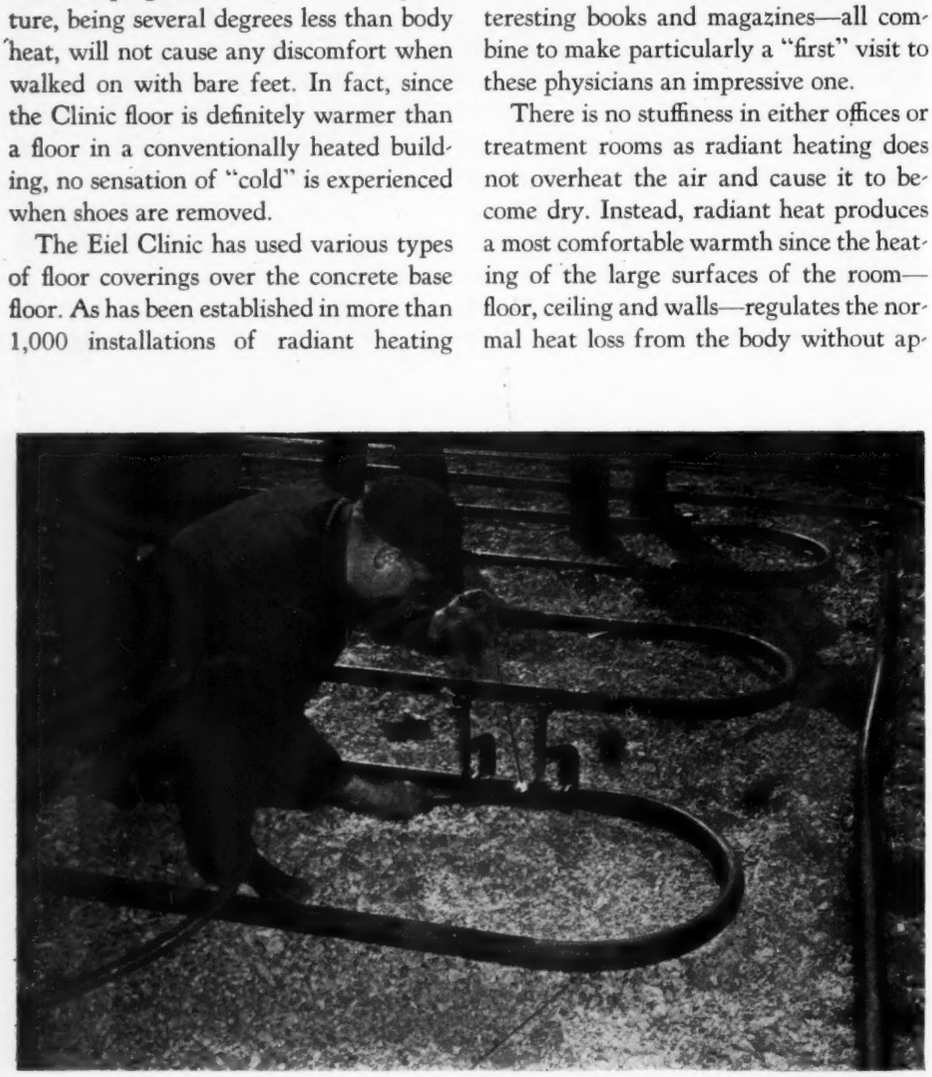
In a building such as the Eiel Clinic, the warm floors produced by the radiant heating system have a definite advantage. Patients disrobing for examinations and treatments are not exposed to cold floors and sweeping drafts. The floor temperature, being several degrees less than body heat, will not cause any discomfort when walked on with bare feet. In fact, since the Clinic floor is definitely warmer than a floor in a conventionally heated building, no sensation of "cold" is experienced when shoes are removed.

The Eiel Clinic has used various types of floor coverings over the concrete base floor. As has been established in more than 1,000 installations of radiant heating throughout the country, any type of floor covering can be used as desired or necessity dictates. Floor coverings most commonly used include hardwood floors, parquet floors, rubber and asphalt tile, linoleum, scatter rugs or full carpeting.

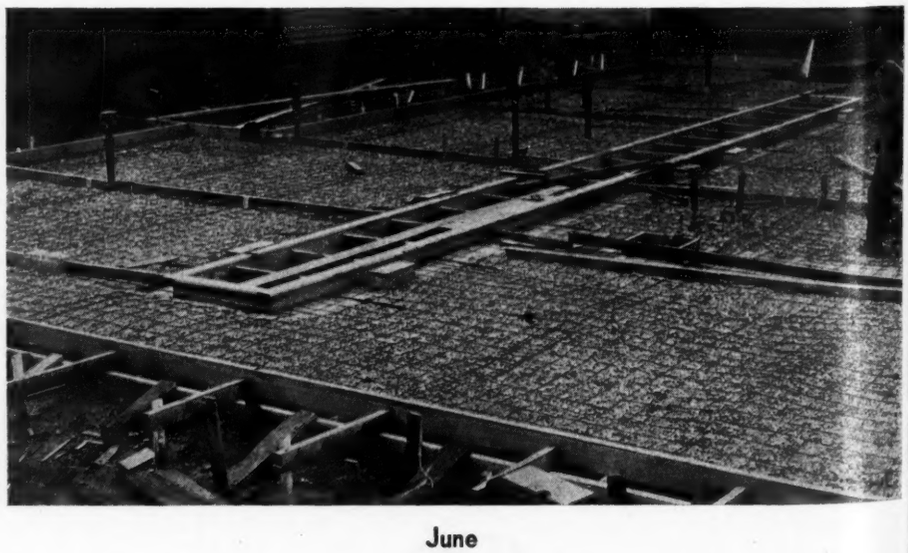
As a patient enters the Eiel Clinic and steps into the waiting room there is a feeling of "homey" comfort. Well upholstered chairs, a modernistic fireplace, interesting books and magazines—all combine to make particularly a "first" visit to these physicians an impressive one.

There is no stuffiness in either offices or treatment rooms as radiant heating does not overheat the air and cause it to become dry. Instead, radiant heat produces a most comfortable warmth since the heating of the large surfaces of the room—floor, ceiling and walls—regulates the normal heat loss from the body without appreciably raising the room's air temperature.

"Our heating system is very efficient and economical," says Dr. John O. Eiel. While detailed costs are not obtainable, radiant heating installation in this type of building costs no more than any conventional wet system. The operating cost, with Osage fueloil prices being rather reasonable, is without doubt bringing economies to the owners of the Clinic, amounting to between 10% and 20% less fueloil being consumed than would be required for a similar building with conventional heat distribution.



Second Step: (*above*) *Pipe coils are welded in place.*



Third Step: (*right*) *Sinuous coils, welded and tested, are covered with a thin layer of gravel and mesh reinforcing.*

Anthracite Loss Is About 3½ Million Tons In Strike

ANTHRACITE TONNAGE LOSS which Anthracite Institute estimated to be 2,366,000 tons through the middle of May, is estimated to have reached 3,500,000 tons before the miners went back to work after their 19-day strike. This represents 5.8% of the annual production in recent years when close to 60,000,000 tons has been mined for war and civilian use.

Anthracite use, which was about 45,000,000 tons before the war, has expanded to a maximum of 60,000,000 tons a year during the war. This is the maximum that can be mined with present manpower available, and allows only 80% of the normal hard coal demand of civilians.

"This loss cannot be overcome, even during the summer when heat is not needed," Anthracite Institute reports, "because the current wartime demands upon the mines already greatly exceed their maximum capacity with the manpower available."

Fueloil Outlook Tighter Until End of Jap Fighting

CONSIDERABLE SKEPTICISM has been expressed by oilheating dealers and fueloil distributors over the oft-repeated statements from the Petroleum Administration that heating oil supplies will be at least as tight next season as last, and may be even tighter. Some oilheating equipment manufacturers, pleased with the removal of restrictions on making burners, feel that there must be some way to get fueloil released for new installations.

The general public can hardly fail to have an impression of more plentiful civilian petroleum supply with V-E Day past and particularly with more gasoline about to be given them . . . though perhaps only for the summer.

Unexpected things happen in wartime. The optimists may be proven right, but no one today can have a sound basis for improved fueloil supply predictions, at least not mathematically. The figures in the story all point the other way. Figures on the future can be wrong, but until time reveals the certainties our planning must be based on figures.

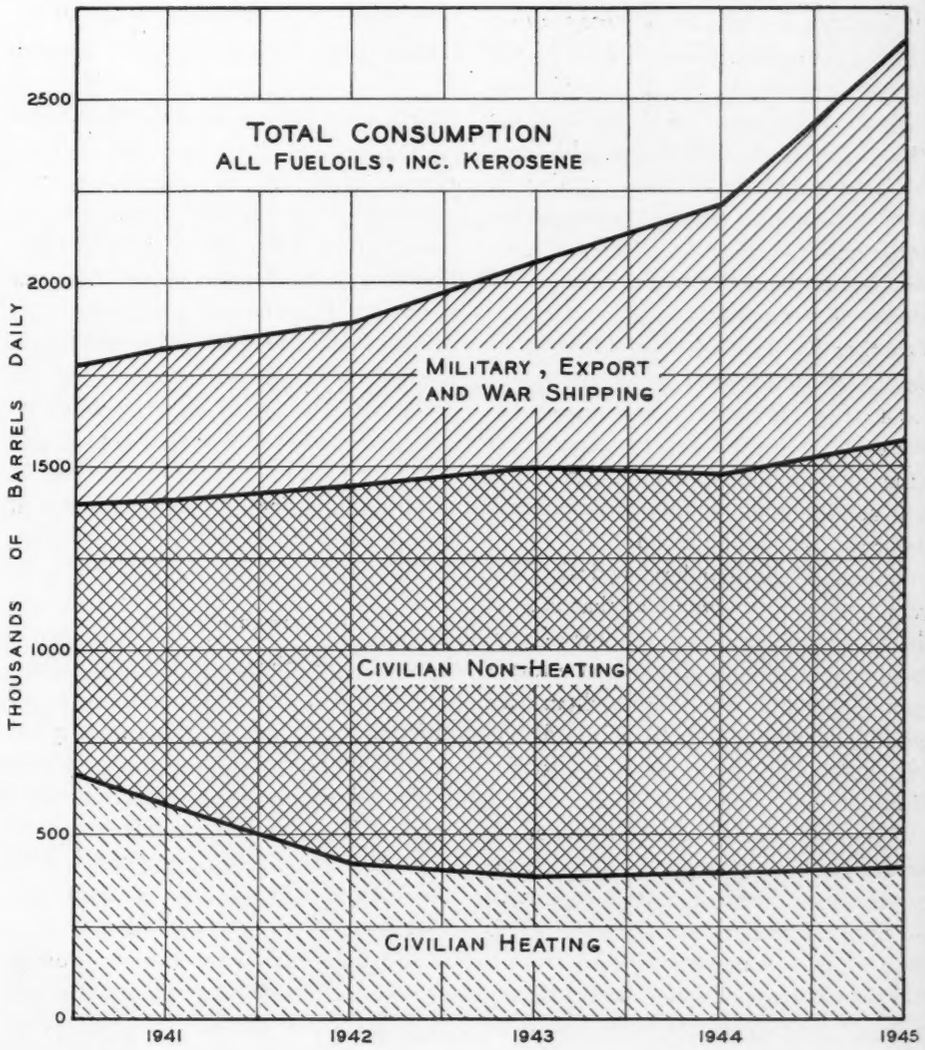
We are not yet meeting the supply program set up by the armed forces for conducting the Pacific war. Industry and government men are trying to give the troops all they have asked for in various types of fueloils, but haven't yet reached the program levels. Perhaps the Army and Navy are too greedy; they ask for too much. No one seriously doubts this, including the supply officers themselves. But they insist on having an adequate quantity at all times and places to be able to not only move ahead as planned but also to take advantage of any breaks.

Comparatively, the Pacific war emphasizes fueloil needs, while the European emphasized gasoline. Smaller ships and landing craft use diesel fuel, a blend of distillate and kerosene. Large Navy vessels use Navy Special, a blend of light residual and distillate. Supply ships use bunker oils, some use Navy Special. Everyone realizes the Naval emphasis of the Pacific war. It will involve more shipping of all types than did the combined European and Pacific efforts. Supply lines are more than three times as long as those to Europe, so a supply ship uses three times as much fuel to get there and back as was used on the European round trip. Tankers arriving at the Pacific action fronts must often hang around for considerable periods before they can start back for more. Many of the tankers do not unload at the island supply bases, but rather go to join a task force that may operate away from bases for weeks, and thus they become floating storage. They may cruise with the task force for some time before their oil cargo is needed.

Even before the all-out Pacific effort, military needs grew rapidly each year.

The total of product for all civilian uses showed little variation in four war years, because industrial demand increased as rapidly as heating demands dropped.

As war industries are cut back, there may be a little easing of the non-heating demand, assuming that manufacture of civilian product does not eat it up. But if that should happen, the armed forces have their hands out already to catch any loose ends, principally because we are not now meeting their stated requirements for distillate and kerosene. As the picture looks today, we will not meet the increased Pacific war demands during next fall and winter by some 60 to 80 thousand barrels daily, if we are to meet the same civilian rationed demand that we had during the past season.



Consumption, All Fueloils and Kerosene

(In thousands of barrels daily)

	All Civilian	Military, Export, War Shipping	Total
1941	1413	396	1819
1942	1439	452	1891
1943	1475	580	2055
1944	1452	671	2213

Civilian Rationed Demand, All Fueloils and Kerosene

(In thousands of barrels daily)

Season	Heating	Other	Total
1941-42	580	851	1431
1942-43	422	1028	1450
1943-44	396	1123	1519
1944-45	404	1146	1550

Who Will Manage Sales?

Selecting a Retail Salesmanager Requires Considerable Care

by
Frank Howell

FOR MANY DEALERS, the time for decision is about at hand. A decision of major importance soon will have to be made; a single decision that probably transcends all others in its importance for retail heating dealers. If not made wisely, precious months of time may be lost and volume may be so affected as to cause serious repercussions in even the most stable of business firms. This decision of all decisions is—*who shall manage sales?*

Sales management means many things to many people. To the dealer with one salesman it may mean a disease that the other fellow gets; to the dealer with three salesmen it may mean something that he must do something about some day; to the dealer with five or more salesmen it probably is something that worries, nags, and haunts him morning, noon, and night. Whether he does anything about it or simply lets nature take its course, he still has a large size problem on his hands for five or more retail specialty salesmen all hanging their hats under the same roof will get attention or they will kick the house down board by board.

Sales managers in oilheating dealerships vary greatly as to type and that is as it should be for obviously the type of personality that is required to direct a forty-man sales force in a metropolitan city would not quite fit into the job of directing a two-man sales force in Hoosier Hollow.

Then there are dealerships where a small or medium size sales force might get better direction and management from an executive who devotes only part of his time to sales management than from a full-time director of lesser ability. Nevertheless, certain personal traits and basic viewpoints should be common to all sales managers, regardless of the size of the selling force or the amount of time the sales manager devotes to this work.

A listing of the duties of retail sales management should give a fair indication of type of man needed and the experience he should have. A full-time sales manager is expected generally to perform the following duties: (1) Market Analysis and Planning; (2) Organizing sales office routine; (3) Recruiting Retail Personnel; (4) Training Retail Personnel; (5) Sales Promotion; and (6) Supply Direction, Supervision, and Inspection.

This list reveals that the perfect sales manager is a man of many parts, so many, in fact, that hardly a man is now alive who can remember seeing this superman in all his glory. It would seem therefore, that inasmuch as perfection is hardly obtainable that it would be wise to consider the relative importance of the different job requirements and to give some thought to an interview procedure that will expose an applicant's capabilities.

Careful consideration of the six major duties certainly discloses that the first two listed are of much lesser importance than the others. There is many a successful sales manager who has never quite understood the difference between the blue and the red areas on his marketing maps, but who got along remarkably well in spite of this handicap because, as one fellow put it, "Business is business no matter where you find it, even if the order is signed with an X."

Reasonable Control

Then again, there are those sales directors that just despise filing cabinets and insist that if a salesman has more prospects than can be kept on the back of a dog-eared envelope that "he just ain't closin'." The last four assignments however we know are being performed with considerable skill wherever a highly successful sales force is in operation.

We know that top management in some cases places great emphasis on an organized department and that it pleases the president of the firm on occasion to show the "visiting fireman" how scientifically his firm analyzes its business potentialities and we are ready to admit that there is much more value to performing these functions than meets the eye. But these are the jobs of sales management that require more practice than native talent and should not be viewed with the same importance as the duties of recruiting, training, promoting, or supervising. These certainly are the fundamentals of sales management and all other assignments engaged in by sales management are just so much parsley. Garnish has its place no one will deny, but no dealer should permit himself to be dazzled by the prospective sales manager who speaks too glibly of his abilities in marketing, analysis, planning, programing, merchandising, and office efficiency and neglects to show the qualifications for the more important tasks.

Investigate Thoroughly

On interviewing the prospective sales manager, the dealer will do well to inquire into the background, experience, and current viewpoint of the prospect in relation to each of the four major duties, and make this examination on these points separately, for knowledge and experience are far more important if one has to make a choice, than that God-given gift known as ability, and it is on this latter quality that most sales managers have been hired ever since sales management became a recognized executive function.

A good line of questioning could go something like this:

Recruiting. (1) How much recruiting experience has the prospect had? (2) What source of manpower does he draw upon? (3) Why does he prefer employment agencies to newspaper advertising for getting salesmen? (4) What does he think of going after the competitors' best men? (5) What type of background does he suggest for heating salesmen—engineering or intangible selling? (6) What is his principal selling theme? Does he sell his men on big money possibilities, a career in selling, or a future in the heating business?

Training. If the applicant passes the recruiting questioning then take up training: (1) What experience in training? (2) Does he believe in lecture training, written sales courses, or just practical

(Continued on page 74)

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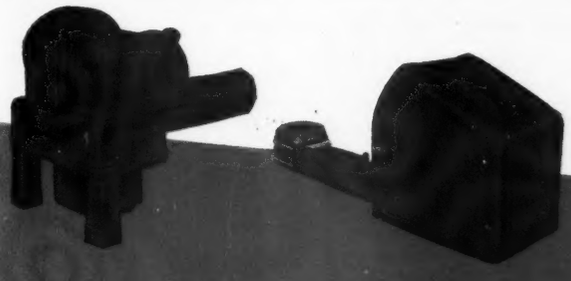


GENERAL MOTORS DELCO-HEAT

DELCO APPLIANCE DIVISION, Dept. FH65
General Motors Corporation
Rochester 1, N. Y.

I am interested in the Delco-Heat Plan for Dealers.

Name.....

Street.....

City..... State.....

Range Oil Sales By Grades and by States for 1943 U. S. Bureau of Mines Figures

(In thousands of barrels)

NEW ENGLAND STATES

1	Kero-sene	No. 1 Fuel	1943 Total	1942 Total
Massachusetts	9,920	331	10,251	11,682
Connecticut	3,434	174	3,608	3,771
Rhode Island	1,853	64	1,917	2,292
Maine	1,311	44	1,355	1,627
N. Hampshire	810	25	835	914
Vermont	447	5	452	593
	17,775	643	18,418	20,879

MIDDLE ATLANTIC STATES

2	Kero.	No. 1	1943	1942
New York	6,286	208	6,494	7,128
New Jersey	3,019	66	3,085	3,449
Pennsylvania	858	33	891	919
Maryland	660	6	666	662
Dist. of Col.	96	1	97	104
Delaware	85	17	102	85
	11,004	331	11,335	12,347

MIDDLE WESTERN STATES

3	Kero.	No. 1	1943	1942
Illinois	1,862	1,419	3,281	2,789
Michigan	352	673	1,025	934
Wisconsin	292	564	856	781
Iowa	278	600	878	674
Minnesota	312	438	750	663
Missouri	573	127	700	553
Ohio	553	81	634	472
Indiana	257	296	553	439
Nebraska	260	52	312	177
Kansas	176	47	223	151
N. Dakota	73	47	120	107
S. Dakota	80	26	106	106
	5,068	4,370	9,438	7,846

WESTERN STATES

4	Kero.	No. 1	1943	1942
California	61	18	79	93
Montana	36	51	87	59
Colorado	34	47	81	41
Wyoming	13	22	35	34
New Mexico	60	9	69	33
Washington	14	..	14	27
Oregon	15	..	15	17
Utah	4	9	13	16
Arizona	7	7	14	16
Idaho	3	3	6	13
Nevada	2	..	2	2
	249	166	415	351

SOUTHERN STATES

5	Kero.	No. 1	1943	1942
N. Carolina	768	41	809	785
Florida	689	30	719	654
Texas	851	14	865	558
Georgia	299	22	321	290
S. Carolina	230	22	252	239
Virginia	224	57	281	228
Oklahoma	162	..	162	135
Arkansas	162	92	254	125
Tennessee	163	17	180	112
Louisiana	168	3	171	99
Alabama	154	46	200	81
Kentucky	131	1	132	71
Mississippi	77	21	98	64
W. Virginia	47	..	47	59
	4,125	366	4,491	3,500

TOTAL UNITED STATES

	Kero.	No. 1	1943	1942
U. S. Total	38,221	5,876	44,097	44,923

U. S. Bureau of Mines Reports Fueloil Consumption Detail

SALES OF FUELOIL established another record in 1943, according to a survey just released by A. T. Coumbe, Petroleum Economics Div., Bureau of Mines. Deliveries of fueloil totaled 690,189,000 barrels or 17% above 1942 requirements of 592,146,000 barrels. Kerosene sales of 67,815,000 barrels were slightly below the 1942 demand of 68,690,000 barrels.

All principal uses of fueloil showed 1943 gains except heating oil, which was 8% lower. Railroad purchases were up 17%, vessels up 57% and public utilities up 9%, although utilities were still below their record requirements of 1941.

Residual fuels showed the larger gain in 1943, in contrast to 1942 when light grades showed the greater increase. Total distillate fueloil sales in 1943 were 207,712,000 barrels, against 186,813,000 in 1942, up 11%. This expanded market for light fuels was not caused by rising heating oil demand as in former years but was definitely due to the pronounced upward trend in requirements for Diesel oils for rail and ship transportation and other industries.

Lower deliveries of light heating oils in 1943 prevailed in all parts of the country except the Pacific Coast and Rocky Mountain regions. Pacific distillate heating sales rose from 9,124,000 barrels in 1942 to 10,255,000 in 1943, largely resulting from the influx of war workers. Rocky Mountain States deliveries, though relatively inconsequential, rose from 705,000 barrels to 808,000.

The demand for light heating oils in the East Coast area constitutes about 60% of national requirements, and there sales declined by 8% from 70,456,000 barrels in 1942 to 65,082,000 in 1943. In New England sales dropped 11%, in the Middle Atlantic States 6%. The North Central States rank second to the Middle Atlantic area as a market for distillate heating fuel, with sales of 31,541,000 barrels in 1943, an 11% decline from 35,445,000 barrels in 1942.

Range oil sales declined only slightly during the year, from 44,923,000 barrels in 1942 to 44,097,000 barrels in 1943. Rationing definitely cut individual consumption more than this, so evidently there was considerable expansion in number of range burners and space heaters.

A review of monthly statistics reveals that the upward trend in demand for residual fuels evident in 1943 continued into 1944, but requirements for the distillate grades remained at approximately the same level. The market for kerosene, which declined slightly in 1943, registered a 5% gain in 1944. Greatly increased demand for bunker fuel in 1944 was evidently the principal factor that forced up the residual volume while a 15% gain in deliveries to electric power plants was a secondary cause.

Purchases of heavy fueloil by railroads did not enter into the picture as their requirements were slightly less in 1944 than in 1943. Sales of Diesel fuel to railroads and for bunkers to vessels in the foreign trade were up substantially in 1944 compared with 1943 and it is most likely that Diesel requirements for military use were also larger, so it is evident that the volume of light fueloils delivered for heating in 1944 dropped for a second consecutive year.

Fueloil Sales 1939-1943, by Uses

(In millions of barrels)

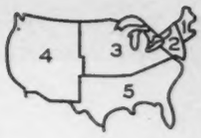
DISTILLATE 1939	1940	1941	1942	1943	USES	RESIDUAL 1939	1940	1941	1942	1943
97	116	121	122	113	Heating	39	45	47	47	43
3	4	4	5	6	No. 1 Sold as Range	..	..	..	..	..
2	3	5	6	9	Railroads	61	65	81	100	116
14	13	11	9	11	Vessels	65	62	57	38	62
5	5	5	6	6	Utilities	28	28	34	28	31
6	7	10	13	15	Industrial	61	67	78	85	84
1	1	1	1	1	Oil Company Fuel	48	51	54	45	47
11	12	15	26	48	All Other Uses	16	21	31	63	99
139	161	173	187	208	TOTAL	318	338	381	405	482

Heating Oil Sales

By Grades and by States

Official U. S. Bureau of Mines Figures

(In thousands of 42-gallon barrels)



NEW ENGLAND STATES

1943				Total Distillate			1943		Total Residuum		Grand Totals	
No. 1	No. 2	No. 3	No. 4	1943	1942	1	No. 5	No. 6	1943	1942	1943	1942
245	7,881	323	123	8,572	9,658	Massachusetts	421	3,082	3,503	4,313	12,075	13,971
50	3,815	367	103	4,335	4,548	Connecticut	368	790	1,158	1,639	5,493	6,187
49	1,845	249	38	2,181	2,426	Rhode Island	47	648	695	822	2,876	3,248
6	741	16	12	775	1,034	N. Hampshire	5	243	248	300	1,023	1,334
37	819	..	10	866	1,016	Maine	..	186	186	208	1,052	1,224
6	428	9	..	443	550	Vermont	20	66	86	108	529	658
393	15,529	964	286	17,172	19,232		861	5,015	5,876	7,390	23,048	26,622

MIDDLE ATLANTIC STATES

No. 1	No. 2	No. 3	No. 4	1943	1942	2	No. 5	No. 6	1943	1942	1943	1942
838	20,401	1,729	773	23,741	25,245	New York	774	8,171	8,945	10,262	32,686	35,507
85	9,527	719	661	10,992	11,899	New Jersey	999	2,884	3,883	4,211	14,875	16,110
142	4,199	1,372	361	6,074	6,085	Pennsylvania	1,359	2,156	3,515	4,266	9,589	10,351
39	2,260	136	117	2,552	2,734	Maryland	51	610	661	849	3,213	3,583
38	1,496	20	2	1,556	1,819	Dist. of Col.	30	524	554	681	2,110	2,500
22	221	92	4	339	395	Delaware	20	117	137	151	476	546
1,164	38,104	4,068	1,918	45,254	48,177		3,233	14,462	17,695	20,420	62,949	68,597

MIDDLE WESTERN STATES

No. 1	No. 2	No. 3	No. 4	1943	1942	3	No. 5	No. 6	1943	1942	1943	1942
1,260	4,430	6,233	278	12,201	13,769	Illinois	2,436	2,513	4,949	5,563	17,150	19,332
931	2,591	910	42	4,474	5,201	Minnesota	413	117	530	581	5,004	5,782
1,360	1,657	1,116	75	4,208	4,679	Michigan	1,119	424	1,543	1,806	5,751	6,485
427	1,310	1,897	54	3,688	4,340	Missouri	1,335	363	1,698	1,730	5,386	6,070
419	1,878	1,429	45	3,771	4,247	Wisconsin	460	266	726	827	4,497	5,074
421	1,086	368	23	1,898	2,179	Iowa	210	57	267	309	2,165	2,488
196	587	447	66	1,296	1,486	Indiana	407	236	643	758	1,939	2,244
204	292	859	21	1,376	1,470	Nebraska	191	25	216	238	1,592	1,708
374	208	705	6	1,293	1,370	Ohio	141	54	195	237	1,488	1,607
144	203	56	1	404	453	S. Dakota	10	8	18	23	422	476
155	182	53	2	392	382	Kansas	54	41	95	80	487	462
55	193	47	..	295	330	N. Dakota	6	..	6	10	301	340
5,946	14,617	14,120	613	35,296	39,906		6,782	4,104	10,886	12,162	46,182	52,068

WESTERN STATES

No. 1	No. 2	No. 3	No. 4	1943	1942	4	No. 5	No. 6	1943	1942	1943	1942
2,306	..	1,929	..	4,235	3,806	California	3,496	578	4,074	3,269	8,309	7,075
1,615	..	1,894	..	3,509	2,943	Washington	1,179	488	1,667	1,895	5,176	4,838
721	..	1,043	..	1,764	1,540	Oregon	883	201	1,084	1,015	2,848	2,555
177	..	155	..	332	467	Nevada	142	..	142	113	474	580
231	..	184	..	415	368	Arizona	58	3	61	47	476	415
70	147	34	..	251	193	Colorado	1	10	11	16	262	209
60	41	32	10	143	140	Idaho	2	5	7	8	150	148
19	20	98	9	146	120	Utah	4	..	4	..	150	120
28	38	45	12	123	100	Montana	18	45	63	10	186	110
39	28	14	6	87	93	Wyoming	7	..	7	..	94	93
12	22	24	..	58	59	New Mexico	..	5	5	6	63	65
5,278	296	5,452	37	11,063	9,829		5,790	1,335	7,125	6,379	18,188	16,208

SOUTHERN STATES

No. 1	No. 2	No. 3	No. 4	1943	1942	5	No. 5	No. 6	1943	1942	1943	1942
66	1,087	19	..	1,172	1,321	Virginia	..	210	210	242	1,382	1,563
101	296	106	17	520	624	Florida	22	378	400	466	920	1,090
43	129	266	1	439	497	N. Carolina	..	25	25	31	464	528
72	133	56	..	261	362	Louisiana	6	50	56	94	317	456
11	145	110	3	269	353	Georgia	11	44	55	63	324	416
27	113	76	16	232	317	Texas	53	51	104	117	336	434
24	133	17	..	174	197	S. Carolina	5	..	5	11	179	208
37	91	62	14	204	192	Kentucky	6	150	156	86	360	278
..	44	24	..	68	130	Arkansas	..	..	..	3	68	133
22	39	11	1	73	105	Oklahoma	..	..	..	13	73	118
25	38	79	..	142	98	Alabama	..	6	6	1	148	99
14	63	44	..	121	69	Tennessee	..	71	71	5	192	74
12	27	43	..	82	55	W. Virginia	..	..	..	..	82	55
4	19	16	..	39	42	Mississippi	..	..	..	..	39	42
458	2,357	929	52	3,796	4,362		103	985	1,088	1,132	4,884	5,494

TOTAL UNITED STATES

No. 1	No. 2	No. 3	No. 4	1943	1942		No. 5	No. 6	1943	1942	1943	1942
13,239	70,903	25,533	2,906	112,581	121,506	U. S. A.	16,769	25,901	42,670	47,483	155,251	168,989

AVAILABLE IN 1945...

● A limited number of Mack trucks are now in production.

● They will, of course, be made available under priority to essential users only.

● We will gladly give you any help you may need with your applications. Just let us know.

Mack

TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS

BUY U. S. WAR BONDS

MACK-INTERNATIONAL MOTOR TRUCK CORPORATION

Mack Trucks, Inc., Empire State Building, New York 1, N. Y.
Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J.
Long Island City, N. Y. Factory branches and dealers in all principal cities for service and parts.

PERFORMANCE COUNTS

designed... tested... and ready for production

...now we're set to talk sales with YOU

HERE'S THE HEIL POSTWAR PROGRAM

1. Smart styling, sound engineering, dependable performance.
2. Complete line of conversion oil burners, boiler-burner and furnace-burner units.
3. New designs feature accessibility for simplified service and maintenance.
4. Uniformity of design and construction throughout entire line.
5. Attractive price structure assuring generous profit.
6. Advertising and merchandising aids designed to make selling easier.

■ You've known for a long time what your customers want in postwar oil heating designs—and the type of product you need for more profitable sales.

Now in the new Heil line you'll find the features you have been looking for. New in every detail, smartly styled and soundly engineered in the Heil tradition, this new line is tested and ready for production when war restrictions are lifted. Here are types and sizes for every domestic heating requirement—at prices that appeal to any pocketbook.

But that's not all. To acquaint your customers thoroughly with the advantages of Heil oil heating equipment—to assist you in making more postwar sales and profits—we have prepared a powerful advertising and sales promotion campaign that features tested merchandising ideas and sales aids.

WRITE NOW FOR DEALER FRANCHISE INFORMATION

Seeing is believing. You are invited to look over our designs and merchandising plans now. A letter will bring you the complete Heil story so you can convince yourself that a Heil franchise means more postwar profits for you.

ARMY E NAVY

THE HEIL CO.

DEPARTMENT F-1, MILWAUKEE, WISCONSIN

Manufacturers of Quality Automatic Heating Equipment Since 1924

Industry Meetings

Activities of local and national industry associations will be reported monthly in this department. Secretaries are invited to send reports of their group's activities, to reach the editor by the 20th.

ASHVE Studies Duct Friction

AIR DUCT FRICTION will be a major study at the Research Laboratory of the American Society of Heating & Ventilating Engineers, Cleveland, under the direction of the Technical Advisory Committee on Air Distribution and Air Friction. Prof. D. K. Wright of Cleveland, a member of the subcommittee in charge of the research, has pointed out that present tests that have been made in the past have been restricted to the lower portion of standard friction charts. He indicated that charts in general use tend:

(1) To give friction values too low in the upper range if satisfactory in the low range, or too high in the middle if satisfactory at the top and bottom.

(2) To over-emphasize the effect of change of diameter in the low velocity range.

(3) To under-emphasize the effect of change of diameter in the high velocity range.

Buffalo Chapter Elects

NEW OFFICERS elected by the Western New York Chapter of the ASHVE at Buffalo are: F. Albert Moesel, president; H. Seelbach, Jr., 1st vice-president; George Adema, 2nd vice-president; B. C. Candee, treasurer, and John S. Meyer, secretary. Also elected to the Board of Governors were Myron C. Beman, Joseph Davis, W. R. Heath, and Ross Farnan. Retiring president Sherman Strouse was presented with a certificate of commendation for his work during the 1944-45 year.

OHI of N. E. Elects

OIL-HEAT INSTITUTE OF NEW ENGLAND held its annual meeting and the first meeting of the new board of directors at Boston, April 18, and elected Donald G. Clark, Worcester; Robert T. Platka, Burlington, Vt.; Harold W. Loveren, Dover, N. H.; Thomas J. Reagan, New Bedford, Mass.; and Ivan C. Sutherland, Lynn, directors for three-year terms, and Don P. Hobbs, Malden, Mass., for a two-year term. The directors named the following officers: Edward P. Hacker, Portland, Me., president; Francis Gilbane, Pawtucket, R. I., 1st vice president; Russell Swett, Springfield, Mass., 2nd vice president; and Fred N. Beckwith, Boston, secretary and treasurer. A. W. Barr, Boston, was named representative of the Associate members.

N. E. Starts Schools

SERVICE SCHOOLS for members of the Oil Heat Institute of New England will start June 18, under the direction of Otto V. T. Urban, director of education, according to Fred N. Beckwith, executive secretary. The course of installation and service instruction will continue for twelve weeks with one school session each week for employees of member companies.

Sessions will start June 18 at Worcester, Mass.; June 19 at Springfield, Mass.; June 20 at Hartford, Conn.; and June 21 at Providence, R. I. Lessons will follow the same order of rotation each week from Monday through Thursday, except that the weeks of July 2 and September 3 will be omitted from the schedule because of the holidays that fall in those weeks.

Plans call for other school circuits cov-

FIRST IN ITS FIELD

The Dongan was the first of all transformers to be listed by the Underwriters' Laboratories as standard for oil-burner ignition. There's no transformer superior to the Dongan, regardless of price.

DONGAN ELECTRIC MFG. CO.

2981 Franklin Detroit 7, Mich.

The Dongan Line
Since Nineteen-Nine

WRITE FOR LITERATURE

DONGAN TRANSFORMERS

ering all of New England as soon as the present schedule is completed. Mr. Urban has been intimately connected with the oilheating industry for twenty years, and is well qualified to conduct the classes on installation and service.

Mass. Oil Heat Meets

MASSACHUSETTS OIL HEATING Association held its last monthly meeting before the summer vacation on May 15, at the Fox and Hounds Club, Boston. The speaker of the evening was T. A. Hodgdon, director of marketing for Harvey-Whipple, Inc., Springfield, Mass., who spoke on "What's in Store for the Oil Heating Dealer in Massachusetts?"

Wisconsin Issues Booklet

AN INEXPENSIVE BOOKLET that is designed to be mailed to oilburner users to urge a summer clean-up has been issued by the Advertising Committee of the Wisconsin Oil-Heat Association, Milwaukee. The booklets are 3 by 6 inches overall, and are intended to be used as stuffers with any bills or other mailings going to customers. This effort is in line with the advice by government agencies to put heating equipment in good working order before the start of next heating season.

Atlantic Conference to Meet

THE SECOND ANNUAL MEETING of the Atlantic Coast Oil Conference, Inc., will be held at the Hotel Commodore, New York, at 3 p.m. June 14. A cocktail hour will follow the meeting, after which there will be a dinner. A special program for the evening is being prepared, according to Clyde G. Morrill, executive secretary.

NYOHA Plans Directory

A DIRECTORY AND HAND BOOK for the year 1945-1946 is being planned by the New York Oil Heating Association. This publication will contain a listing of the membership, officers and directors. The directory is an annual publication of the association, and carries much pertinent information for its membership.

◈

W. A. Russell, second vice president of the American Society of Heating and Ventilating Engineers, died on May 12 in Kansas City, Mo. At the time of his death, *Mr. Russell* was district manager for the Hoffman Specialty Co., Kansas City.

What WE SAID in 1941... Our Dealers Had PROVED

The advertisement reprinted below, from the July, 1941, issue of "Fuel-oil," was based on enthusiastic dealer reports. The H. C. Little oil-burning floor furnace—the ONLY oil floor furnace of any type or manufacture listed by the Underwriters' Laboratories—the only floor furnace with electric ignition—was sweeping the field. Not once since has it relinquished its leadership. Today, in 1945, why don't you write for a copy of "How to Get Real Profits in Postwar Heating" and get the whole story on this outstanding unit.

H. C. LITTLE BURNER CO., INC., SAN RAFAEL, CALIF.

Branches in Principal Cities

... prepared pro- ... sonal ... pects to collect thousands of cards ... WASTE" and saying

First and FOREMOST in PROFIT OPPORTUNITIES

First in sales—foremost in profit... Here's an oil-burning unit that dealers acclaim. The first successful oil-burning Floor Furnace in America, it is still the foremost.

The H. C. Little Oil-Burning Floor Furnace is...

- THE FIRST unit of its type to be listed by the Underwriters' Laboratories.
- THE FIRST with Thermo-Limit Control, so it can't over-heat.
- THE FIRST to offer a vaporizing burner with Electric Ignition.
- THE FIRST unit of its kind listed for No. 3 oil.
- THE FIRST in high NET profits to hundreds of dealers throughout America.

It will pay you to get all the facts and figures on this sensational unit that's sweeping the country. Here's your chance to capture your part of the small-home market—to save your share of the oil-burner business to which you're entitled. Write today for the facts and figures.

(Illustration of cut-away furnace installation)

The H. C. Little Oil-Burning Floor Furnace needs no basement... no warm air pipes. It's patented... listed by the Underwriters' Laboratories. Has exclusive CI Electric Ignition with automatic control... exclusive burner with no moving parts... exclusive Thermo-Limit Control... Burns cheap No. 3 oil.

H. C. LITTLE
Burner Co., Inc.
San Rafael, Calif.

Factory Branches and Warehouse Stocks in Baltimore, Chicago, St. Petersburg, Des Moines, Seattle & Portland (Ore.)

H. C. LITTLE BURNER CO., San Rafael, Cal.
I want facts and figures on your oil-burning Floor Furnace.
Name_____
Address_____
City_____ State_____ F-4

50

July 1941

Restrictions Off Burners

(*Continued from page 42*)

necessary to get a certificate from PAW for a new installation, and to get a fueloil ration from OPA in order to receive the oil to burn in it. New burners can as yet be used only for necessary replacement of worn or damaged equipment.

The War Production Board has issued a summary of its policies for Period One, that time between the end of the European War and the end of the Japanese War. During the third quarter this year the Controlled Materials Plan will operate the same as it has in the past, except that it will be open-ended after July 1, to permit materials without CMP allotments.

"In other words," WPB explains, "orders may be placed immediately for deliveries to be made after July 1, 1945. During the remainder of the second quarter, however, deliveries can be made only on authorized CMP orders. It must be clearly understood that permission to place an unrated order does not guarantee delivery of that order.

"Through the third quarter, 1945, and in some cases for the balance of the year, existing civilian programs already authorized will continue to receive affirmative priorities assistance, including CMP allotments for production materials. The production of additional civilian products will not receive such affirmative assistance on a program basis except where it is determined by the Requirements Committee that such assistance is needed to meet minimum war supporting or critical civilian and export needs."

It is understood that some components have become so short that the Requirements Committee may be asked to give help. Control production for civilian use has dropped so low that it is not now keeping up with current demand and stocks are all but gone. It may become necessary to give control manufacturers some relief from their other production, and make manpower and materials available to make controls for civilian use. Any fuel conservation program is seriously hampered by the lack of controls for oilburners, stokers and gasburners.

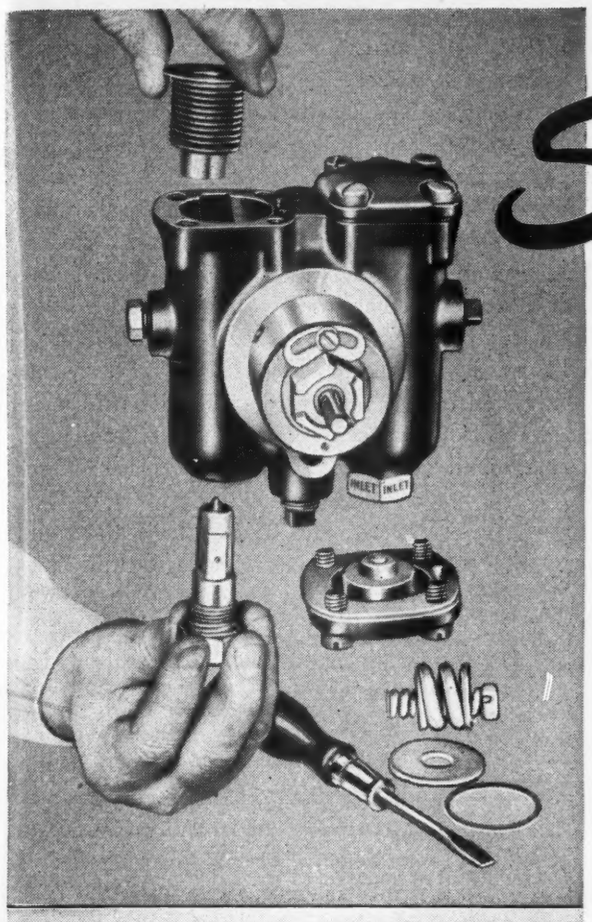
Spot authorizations (under PR-25) will continue only through the rest of the second quarter, except that it may be used only for authorizing greater production than is allowed under the few remaining limitation orders. It will be subject to manpower clearances on larger producers in tight labor areas, and will not grant affirmative priorities assistance.

"In Group I and II WMC Labor Areas," WPB continues, "manpower clearances will be required for increases in programmed production, but only for plants with more than 100 wage earners. These manpower clearances will not be required for unrated civilian production, except under 'spot' authorizations in the case of remaining production control orders.

"A new regulation, PR-27, is being issued to give to manufacturers, including veterans and new enterprizes, who produce less than $50,000 worth of products per quarter, the right to use AA-4 preference ratings and to placed deferred (Z-3) CMP orders for production materials."

Limitation orders which will remain in effect in their present or modified form include L-79, covering distribution of plumbing and heating equipment and L-23-c covering domestic non-electric heating and cooking stoves.

New FUEL OIL METERS
H-3C
H-3K
H-3Z
For fuel oil trucks, portable units, industrial burner fuel metering. For flows to 40 G. P. M. Working pressures to 125 lbs. P. S. I. Screwed connections 1-1/4" size. A small meter with high capacity.
Fuel oil meter illustrated with three different sets of accessories. Model H-3Z equipped with large numeral register, ticket printer, automatic predetermining set stop and air eliminator. Both strainer and back pressure valve are built into the meter. Body constructed of close grained cast iron heavily cadmium plated. Accurate, compact, simple to install. For information contact nearest representative today.
Built on the simple SMITH ROTARY PRINCIPLE–dependable, accurate and fast, the design that revolutionized the meter industry.
SMITH METER COMPANY
Subsidiary of A. O. Smith Corporation • Factory—5743 Smithway, Los Angeles 22, Calif.
Sales Offices: New York, Chicago, Houston, Los Angeles
Local Stocks at Convenient Points
Local Agents in All Principal Cities



Serviceability

. . . the Keynote of All WEBSTER ELECTRIC Valve Improvements

In the Webster Electric duplex bellows valve, *improvements* have been continuous over the years—always pointing toward greater serviceability.

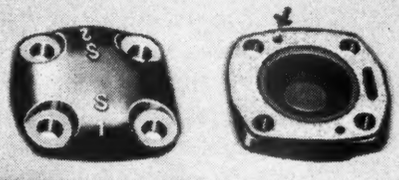
Here is shown how the two main assemblies are removed. This is done by removal of cover, with a common screwdriver, and the bottom valve needle assembly with an ordinary adjustable end wrench. The bellows assembly is complete and ready for inspection and cleaning. The bottom needle assembly can be further dis-assembled into its components. Assembly is made foolproof by ingenious design. Parts made of carefully chosen materials can go together only in the correct manner.

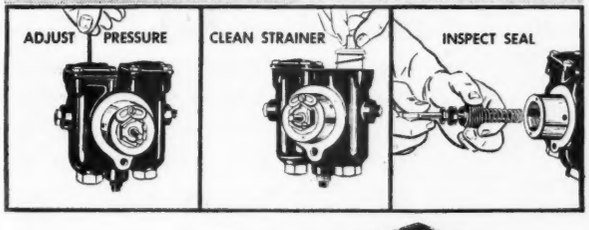
As a result, service-men can depend upon smooth, accurate pressure adjustment and positive, clean cut-off.

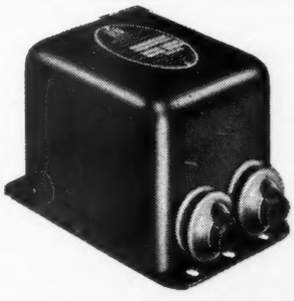
Even though this construction represents great strides toward better performance, fewer parts, longer life, and greater serviceability, we at Webster Electric will continue to search for new and better ways to enhance these features.

To Change from 1-Pipe to 2-Pipe System

This is easily accomplished by merely reversing the strainer cover and placing locating screw (see arrow) under figure "1" for one-pipe system and under figure "2" for two-pipe system.

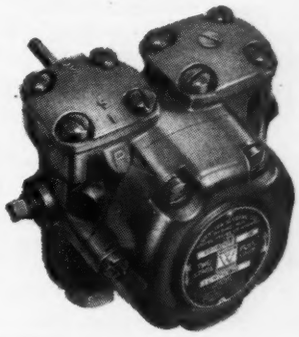






Webster Electric Transformers have gained wide acclaim for their quality and dependability.

WEBSTER ELECTRIC TYPE "T" FUEL UNIT



Let's All Back the Attack . . . *Buy Extra War Bonds*

WEBSTER ELECTRIC

Racine, Wisconsin, U.S.A. • Established 1909 • Export Dept.: 13 E. 40th Street, New York (16), N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

fueloil & oil heat

Range Oil Growth

(*Continued from page 41*)

sene distributing route. Results prove, however, that such a plan is not feasible. Although the products are allied, it is quite evident that the business operations are entirely foreign. The customs of each are different, and both operations need close proprietorship, attention, and management in order to be successful, or at least obtain the optimum profit. A really successful kerosene dealer should be capable of selling, installing, maintaining, and fueling the range oil burner.

Let me detail the operations of one of the most successful dealers with whom I am familiar. He operated two tank-trucks and a coal truck in the busiest seasons. He, himself, attended to the selling and installation of range oil burners. He trained his truckman to make small burner adjustments and maintenance, if not too much time was involved. This naturally kept costs down and prevented more serious trouble, which would have required a special trip of the proprietor himself. He has installed as many as three hundred burners in a season. A dissatisfied customer received much consideration, whether the dissatisfaction was real or fancied. He would sometimes remove the complete burner unit. This burner he would repair and put in excellent working order and sell it to another customer at a reduced price. Usually, the original customer would want to return to the convenience of oil, whereupon, he would install the very latest type of burner. In this way, he created two customers, both of them permanently satisfied and the source of additional prospects. This man's method assured progress and increased growth. Of course, the dealer could not afford to be so considerate were it not for the fact that he was also an oil supplier; and regular route deliveries in a very small congested area helped bring in sufficient profits to offset, in this particular case, the oil burner loss.

I was in the Laurentian Mountains recently, about one hundred miles north of Montreal, Canada, and I was surprised to find many farmers favoring the use of range oil, notwithstanding the fact that wood was free, and coal was produced only a few miles away, therefore, cheaper to use than oil. One farmer told me that he used kerosene because he liked the automatic operation and more even heat. He said he was paying six dollars per barrel delivered, which, as you can see, does not seem an exorbitant price. From the newspapers, I discovered that there was considerable opposition from the coal operators to the use of oil in this Province. The people of the Province were petitioning various authorities to do something about it, complaining, among other things, that it would reduce employment in the coal fields.

To predict a steady increase in the sale of range oil burners is not presumptuous, since their easy automatic functioning provides an ever-ready cooking range; an ever-ready apparatus for heating water and providing even heat. In addition, range oil burners require only a minimum amount of effort on the part of the user; therefore, they have become advertisers in themselves.

Our returning veterans will be likely to see a business opportunity in promoting the sale of the range oil burner. I believe they will be ready to seize the opportunity, especially veterans who are somewhat depleted physically; hence, in need

IN THERE PITCHING

During the past winter—as in previous winters—thousands of Herco Oil Burners in homes all over America delivered dependable, low-cost heat for thousands of satisfied owners.

Not a few of these Hercos are veterans—with many years of top-notch performance to their credit. Yet they've stood up under wartime "extra innings" with almost incredible efficiency.

Their shining record of oil burner performance assures Herco dealers of record breaking post-war demands. A postcard will bring you full information on a Herco dealership—write today.

Service in Wartime Sales in Peacetime

HERCO
The Oil-Thrifty
OIL BURNER

HERCO OIL BURNER CORPORATION, Lancaster, Pa.

of work which will keep them out-of-doors where the sun, fresh-air, and a reasonable amount of unregimented exercise is an assured part of the job. The promotion of a commodity which has proved itself, as is the case with the range oil burner, would be stimulating. The increase in distribution due to their efforts might give these veterans the salesman's thrill, since every additional customer proves selling-ability. Thus would be added the expectation of and the right to extra remuneration in an expanding business: the business of increasing the sales of the neatest, simplest, cleanest apparatus on the market for cooking—the kerosene oil range.

◈

OHI Annual Meeting

(*Continued from page 42*)

Mr. Hess reported that a service training text is nearing completion, and will shortly be made available to the membership, after which work will be started on the revision of the Handbook of Oil Burning. He also recommended that a full-time field man be appointed to work with the Distribution Division membership.

On taking office Mr. Matheson asked for all possible oilburner production to meet the replacement demand. He recognized that many of the larger manufacturers were so involved in war work that they would not be able to produce, but he called upon all elements of the industry who can make burners to do so.

There was discussion of the possibility of better fueloil supply in the near future, and a committee was named to investigate the possibilities with PAW in Washington. Opinion seemed to indicate that there was little likelihood of any immediate increase in the fueloil supply, but the committee has been named to get facts.

Attention of the meeting was called to a new booklet issued by the Institute for consumer prospects entitled, "Automatically . . . The Heat for Tomorrow." The booklet tells the story of a plentiful oil supply which will be available for residential heating after the war.

The next meeting of the Board of Directors was set for July 10 at New York.

◈

William Howard Collins has been appointed assistant director of the Division of Materials, of PAW.

Now is the time to check your outstanding orders for fuel oil tank installations and order a sufficient number of gauges to take care of your post-war requirements. Be sure and consider the many exclusive features to be obtained in ordering *adjustable* MEL-GAUGES . . . see for yourself how this patented *adjustable* feature can boost your sales and simplify your installation problems.

Mel-Gauge COMPANY
EAST HAVEN, CONNECTICUT

Write for Folder

We will be pleased to mail you our file size folder showing the Model A1 and Model C MEL-GAUGES. Orders for MEL-GAUGES are filed for completion when war restrictions are lifted.

Sales Manager

(*Continued from page 46*)

training by working with his men in the field? (3) Does he place more emphasis on product knowledge or selling technique? (4) How much initial training would he give his men before sending them out to sell? (5) Has his experience equipped him to train men in selling housewives or does he believe in approaching the man of the family at the place of business first?

Sales Promotion. What ideas does the applicant have about proposal forms—give away items as door openers for his salesmen to use while canvassing, sales contests, incentive awards, prospect contests for church and club groups—in other words, does he know what sales promotion means?

Direction and Management. (1) Does this man who seeks an opportunity to manage a sales department believe in daily sales meetings? (2) What is his attitude towards daily reports? (3) How many men would he employ? (4) Would he employ any field supervisors? (5) How much advertising would he need to support his sales efforts? (6) Would be confine his men to sales territories or does he think it best for them to work wherever they choose? (8) What is his attitude about drawing accounts and salesmen's remuneration in general?

If the dealer will prepare such a list of questions and will make careful notes of the answers, he will possess concrete material from which a study can be made, and the study of the applicant should be made *from the facts after the notes are cold.* This is important, for if a decision is arrived at immediately after the interview, it should not be surprising if the decision were greatly influenced by the strength of the man's personality rather than by his experience and knowledge of the work.

Not an Exact Science

Many of the questions that will be asked of prospective sales managers may never be answered to complete satisfaction for any dealer because the techniques of selling and management are not considered by most people to have reached the state of an exact science as yet, nevertheless the more definite questions that can be asked and answers recorded, the better the picture that can be drawn.

Throughout this discourse, a certain experience has kept coming to mind again and again to distract us from what might have been a more successful effort to deal with this subject. A certain midwestern dealer some time ago told us of hiring a sales manager at $10,000 a year and then watching with growing disgust for a year and a half this big handsome personality boy stumble through trial-and-error in his attempt to sell oilheating. The losses finally reached many thousands of dollars and the dealer called a halt. He said this man *had everything,* including twenty-two years in selling securities to the hard-headed business men of his town. Did we know what was wrong? We asked if the man taught his men to canvass for prospects and the dealer said that his fellow did not believe in approaching the home. He spent his year and a half trying to prove that the place to sell heating was at the man's office. Well, the sales manager did not prove his point but he collected $15,000 for his ignoble experiment thereby proving that there is money in the oilburner business even if not always wisely spent.

SILOO Fuel Oil Tank Solvent is the sure, safe, easy way to solve many oil burner troubles. Elimination of clogged pipe lines, oil strainers, oil filters and burners means trouble-free operation.

SILOO Fuel Oil Tank Solvent is the result of fifteen years research in the laboratories of Petroleum Solvents Corporation, one of the leading manufacturers of solvents for petroleum residues. Its action is immediate and positive. It is non-explosive, non-inflammable, non-corrosive, non-toxic and neutralizes acids.

SILOO Fuel Oil Tank Solvent is nationally advertised in twenty-five magazines. It assures satisfied customers and cuts down free service calls. Write for information about the profitable distribution and sale of SILOO Fuel Oil Tank Solvent.

Petroleum Solvents Corp.

Solvents for all types of petroleum residues

331 Madison Ave., New York 17

How a General Electric Automatic Heating Dealership Will Help You Cash In on the Postwar Home Heating Boom

In your locality, hundreds of individuals will build new homes . . . hundreds more will replace old, worn-out heating plants . . . after Total Victory.

That's the market that will be ready and waiting for you . . . and one you can easily crack when you offer G-E Automatic Heating Equipment.

And you don't need a high-pressure sales talk to sell G-E. Your prospects *know*—from the word-of-mouth boasts of satisfied users, from consistent G-E advertising and promotion—that General Electric means tops in comfortable, thrifty heating. They have full confidence in the quality, integrity and research that stand back of the G-E monogram.

There's clear-cut proof of this popular preference in the sales records of speculative builders. In two developments, where buyers had a choice of heating systems, 50 out of 150 and 73 out of 173, chose the G-E equipped homes—*and paid extra to get them!*

The evidence piles up! In another development . . . *where G-E units were featured in the advertising* . . . 78 houses were sold in the first four weeks!

The equipment that can sell houses can certainly sell *itself!* And postwar, G-E units will have *new* sales advantages—low cost, higher economies, "packaged" construction for easier installation.

Get ready *now* for your share of the postwar heating market, with this profit-opportunity line . . . write for the facts on a G-E dealership. *General Electric Company, Air Conditioning Department, Section 5486, Bloomfield, New Jersey.*

BUY . . . and hold . . . WAR BONDS

GENERAL ELECTRIC

Automatic Heating Equipment

Tune in: The "G-E HOUSE PARTY" every afternoon, Monday through Friday, 4 p. m., EWT, CBS. . . The "G-E ALL-GIRL ORCHESTRA," Sundays, 10 p. m., EWT, NBC . . . "THE WORLD TODAY" News, Monday through Friday, 6:45 p. m., EWT, CBS

fuel oil & oil heat

Equipment Manufacturers' Activities

Eureka Vacuum Cleaner Plans Purchase of Oil-O-Matic

AGREEMENT HAS BEEN REACHED by the directors of the Eureka Vacuum Cleaner Company, Detroit, and the Williams Oil-O-Matic Heating Corporation, Bloomington, Ill., to merge the two companies into a single organization. Reported plans call for Eureka to purchase 245,000 of Oil-O-Matic stock held by Walter W. Williams for $1,386,000, thereby acquiring about 57% of the outstanding Oil-O-Matic stock. Mr. Williams would withdraw from all contact with the company. W. A. Matheson, president of Oil-O-Matic, would resign to become vice-president of Eureka in charge of the Williams Oil-O-Matic Division. Other Oil-O-Matic officials have been invited to stay with the company. Stockholders of the two companies have approved the merger.

Other Oil-O-Matic stockholders will be offered $5.16 a share for their stock, or an exchange for Eureka stock on about a one-for-two basis, since Oil-O-Matic stock is selling at about $7 a share on the Chicago Exchange, and Eureka is selling at about $14 a share.

Eureka is reported to have plans for enlarging its appliance line from vacuum cleaners into sink garbage disposal units and a cordless electric iron. Oil-O-Matic, besides its oilfired equipment started to produce the Ice-O-Matic domestic refrigerator in 1929, and more recently has built the Air-O-Matic air conditioning unit. It is pointed out that Eureka would acquire in the deal the modern Oil-O-Matic plant at Bloomington where the labor market is more favorable than in Detroit.

◈

Richmond Buys Plant

THE SANITARY WARE plant of the General Ceramics Co. in Metuchen, N. J., has been purchased by the Richmond Radiator Co., according to Henry L. Charlton, Richmond's president. The purchase opens a new venture for the Company, that of making and marketing general plumbing fixtures.

Balloffet Gets Third "E"

BALLOFFET DIES & NOZZLE CO., INC., Guttenberg, N. J., has won for the third time the Army-Navy Production Award for high achievement in the production of war material. This is said to be the only diamond die firm in the country to have won the distinction.

Maid-O-Mist Moves

MAID-O-MIST, INC. has moved its office and factory to new and larger quarters at 3217-19 N. Pulaksi Road, Chicago 41, Ill. The Company makes automatic humidifiers and other heating specialties.

Henry Furnace Buys Mayn

THE HENRY FURNACE CO., Medina, Ohio, manufacturers of Moncrief heating equipment, has acquired the exclusive manufacturing and selling rights to the Mayn Air damper. Installed in the stack head, this damper takes the place of dampers customarily placed in basement ducts.

Clayton & Lambert Buys Lamneck

CLAYTON & LAMBERT MFG. CO., Detroit, has bought all of the fixed assets and in-

3175

BLACK and WHITE are all you'll ever see on a Rochester Gauge Dial...

You'll never see a discolored dial on a Rochester Tank Gauge. No possibility of dial-discoloring fumes or vapor penetrating through to the dial of a Rochester Tank Gauge—one year or ten years after installation. A powerful magnet, moving with the float actuates the dial without any mechanical connection between the two.

Two dials—with bold, well spaced calibrations. One for the owner in the basement and one for the delivery man outside.

Install Rochester Gauges for long lasting, trouble-free service. Available from your jobber.

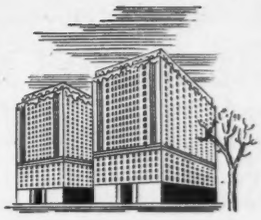
7/8 FULL EMTY. 1/8 1/4 3/8 1/2 5/8 3/4

Both dials on Rochester Gauges are the same size as shown in illustration.

ROCHESTER MANUFACTURING CO., INC.
8 ROCKWOOD STREET ROCHESTER 10, N. Y.
Makers of Fine Gauges — "For the True Inside Story"

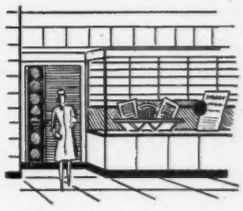
ROCHESTER *Individually Calibrated* GUARANTEED ACCURATE INSTRUMENTS
FOR ACCURATE LIQUID-LEVEL, PRESSURE and TEMPERATURE INDICATION

HOMES



APARTMENTS

FACTORIES



STORES

Triplex HEATING

–The Modern Name for

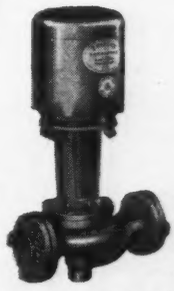
HOT WATER AT ITS BEST

Soundly developed before the war, and recently improved to *exceed* the most modern requirements, Triplex Flow Control Equipment has lifted hot water out of ordinary competition to a new peak of popularity. Today it is TRIPLEX HEATING—*hot water at its best!* For the advanced design and precision construction of Triplex products assure the most efficient, dependable operation of any hot water system—healthful, unvarying, controlled heat, regardless of exterior temperature variations—lower installation costs—lower fuel costs—abundant hot water for domestic use, both winter and summer. Line up with Triplex today, and be ready to cash in on this rapidly-growing demand for hot water at its best—in homes, apartments, stores, factories, and public buildings.

★ ***In addition to units illustrated, the Triplex line includes—***

Pressure Tanks • Pressure Regulators • Pressure and Temperature Relief Valves • One-Pipe Fittings • Temperature Regulating Domestic Water Valves • Barometric Stack Controls • and Electrical Controls.

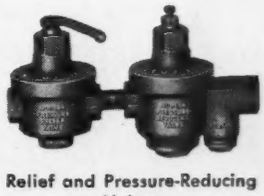
DISTRIBUTED THROUGH RECOGNIZED WHOLESALERS



Direct Drive Circulators

Flow-Control Valves

Indirect Heaters



Relief and Pressure-Reducing Valves

Triplex HEATING SPECIALTY CO.

PERU, INDIANA

fueloil & oil heat

ventories of Lamneck Products, Inc. Perl S. Miller, Lamneck's president, states that he has sold the business because of ill health, which has kept him inactive for some time. Lamneck's line of heating ducts, fittings and grilles will be continued under the new ownership.

Mueller Holds Conference

THE MUELLER FURNACE CO., Milwaukee, held its first sales and planning conference since Pearl Harbor during the last week in April. It was attended by all principal management and field personnel. Future plans were presented, including the introduction of several new postwar heating and airconditioning products.

Heatrola Appoints O'Loughlin

THE ESTATE HEATROLA STOVE CO., Hamilton, Ohio, has appointed T. A. O'Loughlin & Co., Newark, their exclusive distributor for the Northern New Jersey area.

General Filters Counter Displays

GENERAL FILTERS, INC., Detroit, has placed several hundred impressive counter displays in salesrooms of supply wholesalers in recent weeks. On the display panel are mounted two models of fueloil filters with an explanation of why filters are particularly important today.

Carrier Gets Quality Award

CARRIER CORP., Syracuse manufacturer of airconditioning equipment, has been awarded an Approved Quality Control Rating by the Air Technical Service Command, Army Air Forces, indicating "exceptional efficiency of inspection personnel and procedure."

Duo Therm Appoints

DUO-THERM DIVISION of the Motor Wheel Corp., Lansing, Mich., has announced the following distributor appointments: C. R. Rogers Co., Pittsburgh, in Western Pennsylvania; Four States Distributing Co., Springfield, Mo., in Southwestern Missouri; McDonald Brothers, Memphis, and Bomar Appliance Co., Knoxville, to cover Tennessee; Bluefield Supply Co., Bluefield, W. Va., in Southern West Virginia, Western Virginia, and Eastern Kentucky; Ark-La-Tex Wholesale Co., Shreveport, in Northern Louisiana and part of Texas; and Arkansas Electric Co., Little Rock, will cover a large portion of Arkansas.

PREFERRED UTILITIES Mfg. Corp., New York, has issued a new catalog, Bulletin No. 200 B, on its heavy duty fueloil burning ranges for marine and commercial cooking and baking. These units are fired with horizontal rotary burners firing from 3/8 to 1 1/2 gph. Ranges are supplied with a single oven (Model 140) having a cooking top 48 by 38 ins., or with two ovens (Model 160) having a cooking top 72 by 38 ins. Ranges are all steel construction.

FARR Company, Los Angeles, has published a four-page bulletin entitled "Far-Air Filters," which describes and illustrates a new type of Air Filter in designs for all industries including Marine, Railroad, Aviation, Small Engine, Diesel Engine Assembly, Round and Automatic Cleaning Rotary types. This educational bulletin contains technical information and graph charts valuable in any filter problem.

WAYNE HOME EQUIPMENT

DISTRIBUTOR - DEALER

PARTNERSHIP PLAN

- COMPLETE LINE OF HOME EQUIPMENT
- BROAD ADVERTISING PROGRAM
- SELLING HELPS THAT *SELL!*

★

WAYNE AUTOMATIC WATER SYSTEMS FOR DEEP WELLS

New streamlined units. Higher peaks of performance and capacity. Sound engineering.

YOU MAKE GREATER PROFITS IN THE POPULAR PRICE RANGE!

WAYNE OIL BURNER COMPANY, Fort Wayne 4 Indiana

Another New Unit Will Be Featured Next Month — Watch for it.

1. Absorbs condensation—keeps entire system water-free ✓
2. Dissolves gums and sludges ✓
3. Eliminates storage tank cleanings and pump-outs ✓
4. Keeps lines clear, prevents clogging and congealing ✓
5. Insures quicker starting ✓
6. Lessens oil baking on atomizers. Fewer burner changes ✓
7. Reduces carbon and soot ✓
8. Improves combustion ✓
9. Gives cleaner firing, faster heating ✓
10. Increases furnace and boiler capacity
11. Eliminates oil odors, smoky chimneys, puffs
12. Refractory brick work lasts longer

KLEEN-FLO contains no acids or harmful ingredients.

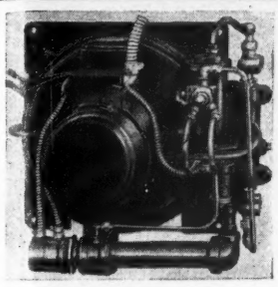
Check THESE BENEFITS WITH KLEEN-FLO

KLEEN-FLO increases oil burner efficiency—one quart conditions 500 gallons of oil —simply add thru oil fill line. Feature KLEEN-FLO — get EXTRA year-round profits

1—By selling to your present customers
2—By attracting NEW customers
3—By saving on labor costs

Get the profit making facts.

COMBUSTION UTILITIES CORPORATION
1451 Broadway, New York 18, N. Y.
Los Angeles Office:
Suite 1119—742 South Hill Street



The Heavy Duty

AVH BURNER

meets all types of commercial and industrial needs. It is fully automatic pre-heater type with a long record of extraordinary fuel economy.

The famous

BANKHEAT BURNER

is ideal for conversions and for a wide range of domestic and industrial installations.

IT TAKES MORE THAN FINE PROMISES TO MAKE A DEALERSHIP LAST!

The real test comes in the years that follow the "honeymoon" . . . in the years when you learn how well those easy promises are kept.

It's not just an accident that 75% of the dealerships we have established in the past 42 years are still going strong . . . still mutually profitable . . . still mutually cordial. That fact will tell you that Johnson Burners are what we claim them to be, and that we believe in keeping not only the letter but the *spirit* of our agreements.

It will pay you to remember this if you are considering a complete oil burner "line" that will make money and friends for you. And don't forget that no other burners can offer greater economy and dependability nor more advanced engineering than time-tested Johnson Burners.

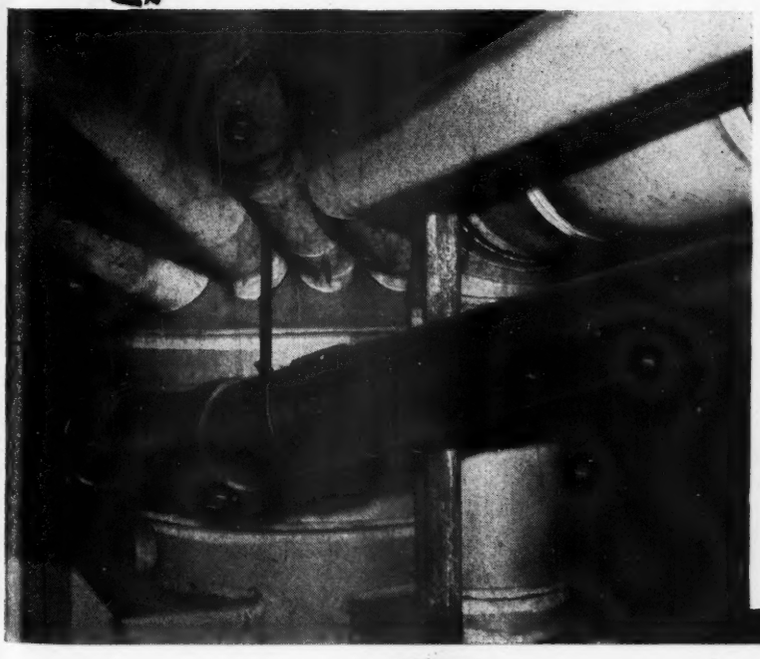
If you want a franchise of which to be proud, find out if there's a Johnson dealership open in your territory. We'll gladly tell you.

Builders of fine Oil Burner Equipment since 1903

Johnson Oil Burners

S. T. JOHNSON CO.
940 Arlington Ave., Oakland 8, Calif.
401 No. Broad St., Philadelphia 8, Pa.

Have you tried IW TRANSITE FLUE PIPE for venting coal and oil burning equipment?



HERE'S a flue pipe developed specially for venting coal and oil burning domestic heating equipment. An asbestos-cement product, it is completely rust-proof. And, because IW Transite Flue Pipe is *integrally waterproofed,* it stubbornly resists corrosive fumes and weather.

IW Transite Flue Pipe is easy to install, too—light in weight, needs few supports, and you can cut it to fit right on the job. 2″ to 12″ diameters; with a complete line of fittings.

For full details, write Johns-Manville, 22 East 40th Street, New York 16, New York.

Approved by the Uniform Building Code

Johns-Manville JOHNS-MANVILLE JM PRODUCTS

IW TRANSITE FLUE PIPE

FOR VENTING COAL AND OIL BURNING EQUIPMENT

Ration Amendments

SINCE THE LAST ISSUE three additional amendments to Ration Order 11 have been made effective:

Amendment 56

This amendment provides for the renewal of rations for heat, hot water, or both, for the ensuing heating year, September 1, 1945, through August 31, 1946. The renewed rations will be issued generally in Class 4B, 5B or 6B coupon sheets. Application for the ration will be made on OPA Form R-1167 (Revised).

Since the amount of fueloil to be available for civilian use during the 1945-46 heating year is expected to be approximately the same as was available for the 1944-45 heating year, the renewed ration will generally be the same as the basic ration issued during the 1944-45 heating year except that the extra amount given to residual oil users will not be renewed.

A change has been made as to nonportable space heaters. The District Director after receiving approval from the Deputy Administrator for Rationing may issue an order removing the floor area limitation for such space heaters in any part of the area under his jurisdiction. In that case the ration for such space heaters will be the amount shown in Table IX.

It is desirable that consumers depositing their newly issued coupon sheets with their dealers and suppliers know at that time the gallonage value of the coupons not yet detached from their previously deposited coupon sheets. It is, therefore, provided that the receipt which the dealer or primary supplier is required to issue to the consumer contain this information. If the information is not readily available at the time the receipt is issued, he must, within seven (7) days thereafter, state the information in a notice to the consumer.

The alternate signature sheet to be used when a consumer fails to sign his coupon sheet before depositing it has been revised to eliminate the date the coupon sheet was received from the Board. The Board will insert on the coupon sheet the date of its issuance.

The provisions for the deposit of coupon sheets have been further amended to permit the issuance of a court order directing the return of coupon sheets by a dealer or primary supplier who violates these provisions.

Since it is not desirable to permit a dealer or primary supplier to make application for rations for his customers, it is provided that he may not directly or indirectly apply for a ration as the agent of another person except in certain limited cases.

Amendment 57

PRESENT REGULATIONS

A ration may not be issued or used for surfacing or maintaining roads or laying dust on roads.

CHANGE AND REASON FOR CHANGE

1. To permit the issuance and use of a fueloil ration for these purposes, except in the states of Washington and Oregon, only if (a) the fuel to be used is that commonly known as "Slow Curing Road Oil No. 1, 2, 3, 4 or 5" (SC-1, SC-2, SC-3, SC-4 or SC-5) and (b) the applicant is a federal or state agency, a political subdivision of a state government or a person, pursuant to a contract with any of these, performing the work for which the ration is sought.

2. To prohibit the issuance or use of a fueloil ration for the production of paving material or dust palliatives unless the

MONARCH BURNER

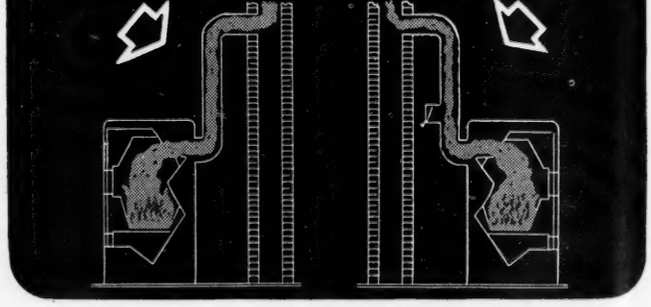
Accessories

NOZZLES: Production is at the highest rate in our history, but quantity orders, even with AA-1 ratings, must be placed well in advance of required delivery dates. *Emergency orders for one or two nozzles are being shipped immediately regardless of how low a priority is applied.*
AIR CONES & STABILIZERS: Quantity orders can only be accepted with AA-1 ratings as castings are unobtainable on lower priorities.
REGULATING VALVES & STRAINERS: Immediate shipment of a few models of piston and double diaphragm valves and suction line strainers.

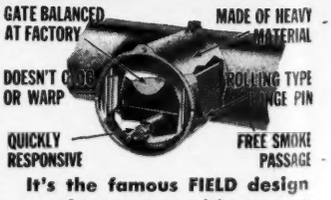
Write for New Catalog D

MONARCH MFG. WORKS, INC.
E. WESTMORELAND & SALMON STS., PHILADELPHIA 34, PA.

field DRAFT CONTROL



FUEL WASTES up to 25% result from excessive, uncontrolled chimney drafts, in nine heating plants out of ten. A Field Barometric Draft Control ELIMINATES this waste. How logical, then, for the few dollars involved, to make a FIELD CONTROL STANDARD EQUIPMENT on every heating installation. Write for the facts today.



It's the famous FIELD design — the most sensitive, most accurate, most durable draft control manufactured today.

FIELD CONTROL DIVISION
MENDOTA, ILLINOIS

Permanent, Postwar

SALESMEN'S OPPORTUNITY

OPEN NOW

Four or five men with heating or combustion backgrounds are wanted at once by an equipment manufacturer for trade-contact marketing work in established territories. Selling ability and experience are essential. Knowledge of, and liking for, mechanics or engineering will be very helpful in this work.

The type of man most likely to be successful in this particular work could be a technical school graduate who has had a couple of years or more experience in selling heating equipment, power plant specialties, combustion control equipment, stokers or oil burners to wholesale distributors and, or, installing contractors. However, a college degree is not a first essential. A practical working knowledge and some experience in heating and power plant work coupled with sales ability is what the job requires.

The Company that wants these men is old and well established in this field. It is respected, progressive, well financed, and is currently planning further expansion and progress in its products and markets. These plans definitely include aggressive promotion and marketing to re-inforce the personal efforts of its representatives.

The line is already well known to the trade and the public and has an enviable performance record and users' satisfaction of many years standing. This line is now in process of further refinement and expansion. Its market is international and growing.

All the men now in this company's marketing division have read this advertisement and agree it is a fair and conservative outline of an opportunity. It is a competitive field, and the work will be varied and interesting, but not attractive to anyone looking for a "pushover".

Every response to this advertisement will receive executive consideration. No inquiries will be made until after an interview has provided a basis for such inquiry and the applicant has authorized it. Interviews can be arranged at practically any time and place, and will be requested on the basis of personal and business experience data in the responses received. It is requested that such data be complete and specific enough to provide an informative outline.

Box 502

FUEL OIL & OIL HEAT
232 Madison Avenue
New York 16, N. Y.

They help PREVENT RADIO INTERFERENCE

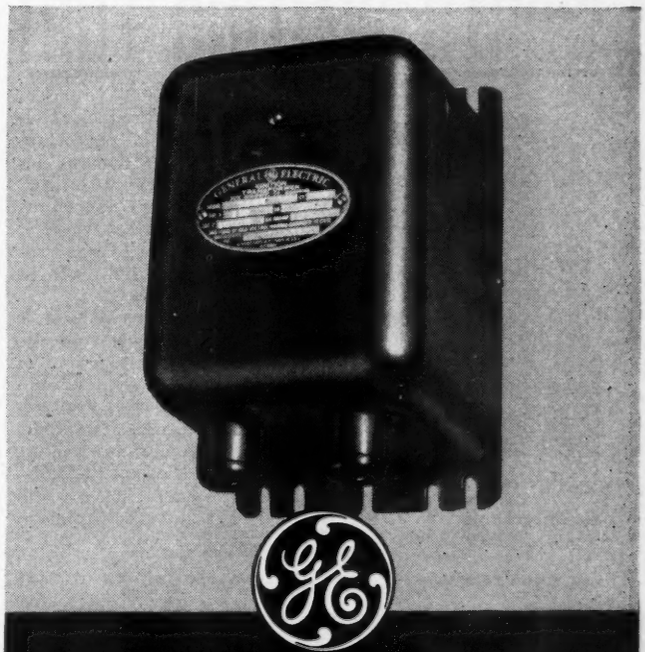
Give your postwar oil burners this extra sales feature

G-E ignition transformers are remarkably effective in reducing radio interference. The Class E design (electrostatically balanced) has the midpoint of its high-voltage winding grounded, and a grounded electrostatic shield is incorporated between the high- and low-voltage windings.

Remember, too, that these transformers provide an *unfailing* high-voltage arc—even igniting oil in an ambient as low as minus 10 C when the line voltage is only 70 per cent of normal. They also deliver ample current to overcome such conditions as cold spark points, and oil film on these points. A wide choice of mounting features makes installation easy.

Add them to your list of design "musts"

Bulletins GEA-912D, GEA-2587, and GET-1004 will bring you complete design and product data to add to your file of ideas for postwar improvements. *General Electric Company, Schenectady 5, New York.*



IGNITION TRANSFORMERS

GENERAL ELECTRIC

403-70-5205

Petroleum Administration for War has granted the applicant a currently valid exception to this restriction under Petroleum Distribution Order No. 13. However, in all states within the limitation area except Washington and Oregon a ration may be issued and used to acquire the above mentioned "Slow Curing Road Oil" for making such products without approval from the Petroleum Administration for War.

Amendment 58

I. PRESENT REGULATIONS

The regulations generally prohibit the issuance of a ration for fueloil burning, cooking or water heating equipment if the applicant has a standby facility.

CHANGE AND REASON FOR CHANGE

To permit the issuance of a ration for domestic cooking and hot water for the period May 1 through September 30 of each year, even though the applicant has a standby facility. Similar provision was made for the last two summers.

II. PRESENT REGULATIONS

Upon the expiration of certain rations the consumers are required to surrender to the Board the coupon sheets issued for the ration. No such requirement exists for consumers who have ration bank accounts.

CHANGE AND REASON FOR CHANGE

To require ration banking consumers whose rations have expired to pay their ration debts and surrender to the Board a check for the balance of the expired ration within twenty days after the ration expires.

◈

Filtered Fuel Oil Corp. Plans Tidewater Terminal

FILTERED FUEL OIL CORP., Brooklyn fueloil distributor, has bought the property known as Simpson Docks on Flushing Bay, Long Island, and will erect a large storage terminal as quickly as priorities can be obtained for the necessary materials. Leon A. Serota is president of the Company and Samuel H. Krone, treasurer.

◈

H. G. Schad has been elected vice president of The Atlantic Refining Co., Philadelphia. He is also a director and general manager of transportation.

Predicts 90,000 NYC Homes

CONSOLIDATED EDISON CO., New York, has predicted that 90,000 one- and two-family houses will be built in New York City and Westchester County by 1954. The utility company has a postwar program to make these structures "completed homes," that is, buildings initially equipped with all modern conveniences of living.

SMALL HOMES COUNCIL, at the University of Illinois, has issued a new bulletin on "Financing the Home" for distribution to consumers. It outlines the costs involved in building a home, and the methods of payment. Tables provide a means of estimating the amount that can be spent for housing by families of varying incomes.

SMOKE PREVENTION ASSOCIATION of America, Inc., Chicago, has issued a "Manual of Instructions on Proper Firing Methods in the Interest of Fuel Conservation and Smoke Elimination." The text matter is largely devoted to ways and means of firing coal, by one article on "Some Practical Data on Fueloil and Its Combustion" was prepared by R. J. Bender, Fueloil Engineer.

"EDCO" PRODUCTS ARE WORTH WAITING FOR!

Fig. 246

Right now, "EDCO" production is bigger than it ever was in peacetime. Due to the ever increasing demand for "EDCO" Pumps, Pressure Regulating Valves, Pipe Line Strainers and Spray Nozzles by our Armed Forces, there is nowhere near enough left to meet the civilian demands — but they will be worth waiting for.

"EDCO" products have been good in the past. They will be better in the future—proved on the battle fronts of this war. They'll have still greater dependability assured by the vast experience and unusual exacting manufacturing standards which are adhered to.

With Victory and Peace, "EDCO" production lines will keep right on producing trouble-free accessories to help you build the better world for which we are all fighting.

Have you received our new Spray Nozzle Bulletin #2046?

"Specify EDCO Products on Your Next Order."

EDDINGTON METAL SPECIALTY CO.

P. O. BOX K,

EDDINGTON - PENNA.

DEVELOPMENT ENGINEER

One of the most progressive firms in the heating and air conditioning fields—old, well-established, well-financed—requires the services of an expert development engineer. This man will probably be in his late thirties or early forties, will be familiar with old heating and airconditioning equipment, will have designed modern equipment and be full of ideas on the kind of heating and airconditioning devices that will sell. No screwy, fantastic, so-called "postwar" ideas, but sound, streamlined, progressive designs that will work. We are an aggregation of go-getters, yet pleasant to get along with. A great opportunity for the right man.

Box 503, c/o Fueloil & Oil Heat

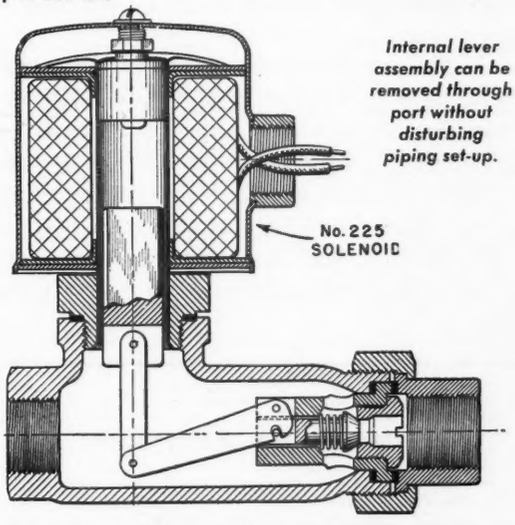
232 Madison Avenue **New York 16, N. Y.**

Control light or heavy fuel oils

GENERAL CONTROLS
MAGNETIC LEVER VALVES

Available Normally Closed and Normally Open

The lever action design of the K-10 gives it six times the power of an ordinary solenoid valve. This feature assures high seating pressure and overcomes the effect of viscous fluids such as heavy fuel oil. Steady pulling power of the solenoid insures positive operation. Suitable for pressures up to 250 lbs.



Internal lever assembly can be removed through port without disturbing piping set-up.

2-wire — Current failure — Packless — Lever action — Bronze-brass body—Brass or stainless steel internal parts.

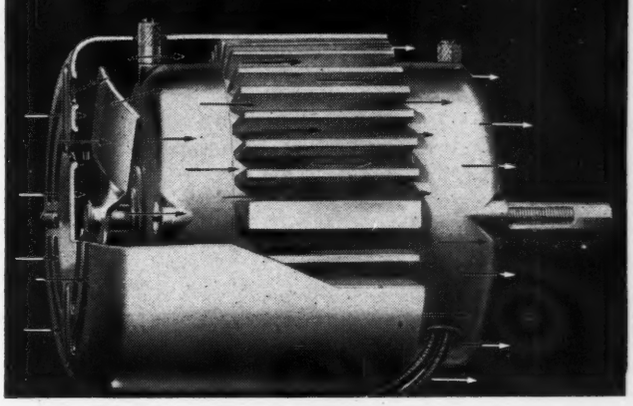
Request Catalog 52B

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.

FACTORY BRANCHES: PHILADELPHIA • ATLANTA • BOSTON • CHICAGO • DALLAS KANSAS CITY • NEW YORK • DENVER • DETROIT • CLEVELAND • PITTSBURGH HOUSTON • SEATTLE • SAN FRANCISCO • **DISTRIBUTORS IN PRINCIPAL CITIES**

Air-Stream Cooled

TOTALLY ENCLOSED



Redmond
SHADED POLE A. C.
MICROMOTORS

THEY'RE *not* restricted to fan duty, for they have an enclosed forced air cooling system.

You'll find Redmond shaded pole Micromotors suitable for applications which many other motors of comparable power can't handle.

If you build heaters, air-conditioners, ventilators, agitators, small pumps, ranges, butter churns or similar items that require motors up to 1/25th horsepower, get in touch with the Redmond Company today. *Ask about the Type "T" Micromotors.*

Redmond COMPANY, INC.
OWOSSO, MICHIGAN

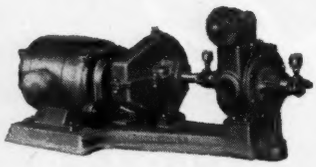
Composite view of Redmond facilities

AC and DC MICROMOTORS • DYNAMOTORS • SPEED CONTROLLERS • BLOWERS

A PUMP YOU CAN TRUST FOR HANDLING

BECAUSE BLACKMER "BUCKET DESIGN" MEANS SELF-ADJUSTMENT FOR WEAR . . .

ECONOMY YOU NEVER EXPECTED



BULK STATION PUMPS	TRUCK PUMPS	HAND PUMPS
50 to 750 G.P.M. Single or twin	35-50-90 G.P.M. Double bearings	1½ to 25 G.P.M. Barrel or tank

Write for Bulletin No. 102—Pumps for the Petroleum Industry.

GASOLINE
CRUDE OIL
BUTANE
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Reader's Problems

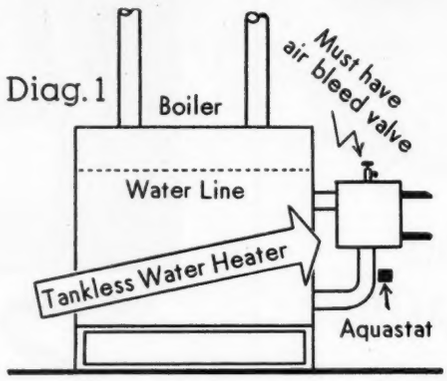
ELECTROL OF MARYLAND, INC.
Catonsville 28, Md.

Editor:

Just finished reading Readers Problem in February issue signed C.C.C., Joplin, Mo., and your solution. Taint gonna work and here's why.

Today no boiler manufacturer is making an opening for an Aquastat in the proper location. To prevent a tankless heater from causing steam in a steam boiler during the summer months it is necessary to get the Aquastat in the boiler circulation and I know of no way to do this but as follows.

Put a surface Aquastat on the return circulating leg of the tankless heater about six inches above the elbow below the heater, as my attached diagram shows (Diag. 1). Set the Aquastat for 110° and let it stop the burner. If the water heater is not hot enough to give the desired temperature hot water, set the Aquastat 10° higher; repeat this until you arrive at the desired temperature for the boiler water. You will thus get the maximum heater capacity and no steam from the boiler, even in a vacuum heating plant. For hot water heating plants this is the best location for an Aquastat, and no other limit control is needed. This Aquastat location should not be used where a storage tank is installed. The supply and return piping between the boiler and the tankless heater must, of course, be the full size of the tappings in the heater shell.



JONATHAN DIXON.

Boiled down, our advice to C.C.C., Joplin, Mo., was to try to get rid of the trouble of radiators heating in summer by installing the surface-type boiler temperature control on the hottest part of the steam boiler, and setting it at the point at which the boiler water simmered (but did not generate enough steam to heat the steam piping or radiators) when this control stopped the burner. We indicated advantages might be gained by installing at the proper location an adjustable-differential immersion type temperature control, instead of an ordinary surface type control. It was indicated the principle is to stop the burner before the boiler generates enough steam to heat any radiators, and start the burner again before the boiler chills sufficiently for too-cool hot water to come from the hot water faucets.

Although many equipment dealers and manufacturers disagree with Mr. Dixon, he presents ideas that deserve consideration. His method will save fuel, probably, by causing the boiler temperature to be lower when no hot water is being drawn than when there is a heavy water heating load. With excellent circulation through the tankless heater and no hot water be-

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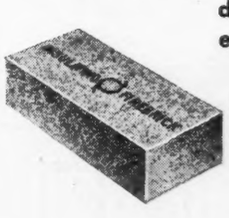

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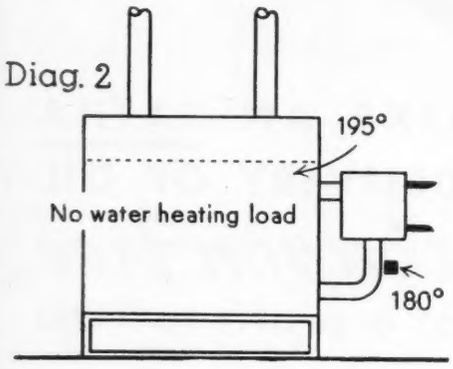
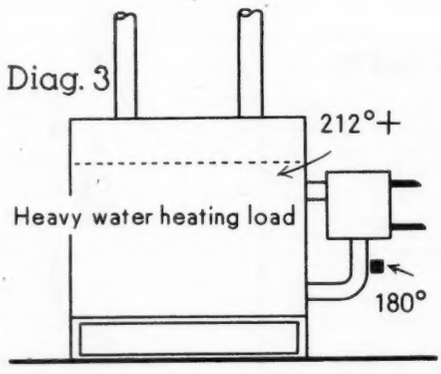
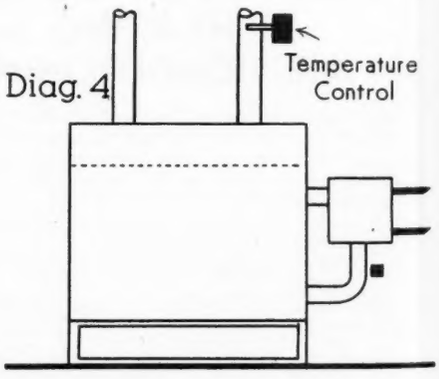


ing drawn (Diag. 2), in an effort to obtain maximum tankless heater temperature the Aquastat may be set at 180° on some installations, and as a result the boiler water will be somewhat hotter, perhaps 195°, when the burner stops. Following this there may be a heavy demand for hot water, which results in decidedly cool water coming from the bottom of the shell of the tankless heater (Diag. 3) and in an effort to keep the temperature 180° at the Aquastat location, the burner may run steadily and generate enough steam to heat the radiators in summer. On many installations where there is a heavy water heating load, the boilers will steam when hot water is being drawn for prolonged periods even with Aquastats at Mr. Dixon's location set as low as 140°, for a rapid flow of cold water into the coil of a tankless heater chills the shell greatly.

Diag. 4 suggests installing a temperature control in the steam main, a few feet from the boiler, to be connected in series with the Aquastat set at Mr. Dixon's location, and set at about 160° so that it will stop the burner in summer at any time when the steam mains tend to heat. Using this additional control and setting Mr. Dixon's Aquastat as low as will give properly heated water, may give the fuel economy he apparently seeks to gain when he tries to avoid using a control arrangement that will at all times keep the boiler water as hot as possible without its simmering so much, at the end of a burner run, as to heat the steam mains and radiators.





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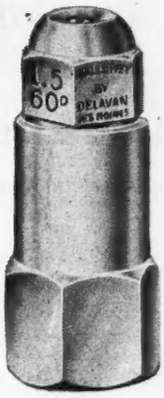

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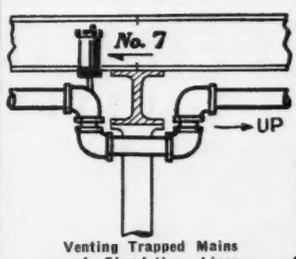

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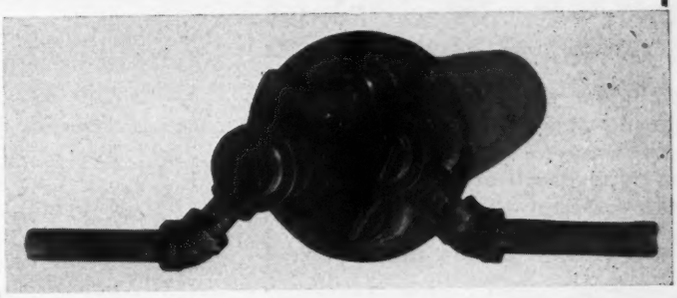

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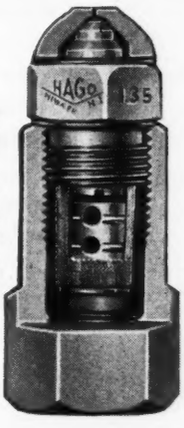

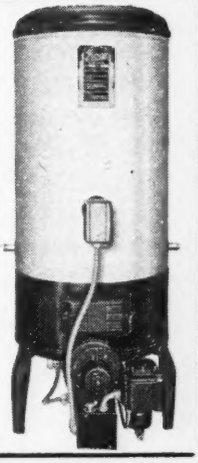

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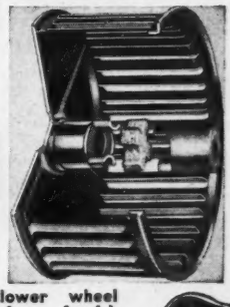

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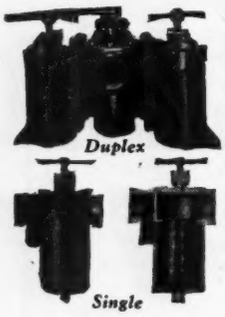

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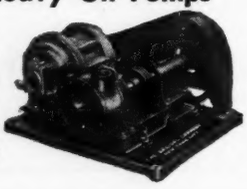

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Normal	1944	1945	Change*		Normal	1944	1945	Change*
549	694	437	—20.4	Albany	6366	7010	6511	+ 2.3
173	173	103	—40.5	Atlanta	2967	2847	2950	— 0.6
347	361	216	—37.5	Baltimore	4410	4420	4161	— 5.7
538	608	388	—27.8	Boston	5605	5865	5390	— 3.8
672	721	476	—29.2	Buffalo	6454	6774	6228	— 3.5
536	590	464	—13.4	Chicago	5946	6245	5859	— 1.5
374	347	274	—36.5	Cincinnati	4861	4869	4736	— 2.6
558	602	404	—27.6	Cleveland	5839	6030	5701	— 2.4
95	85	107	+12.6	Dallas	2364	2418	2200	— 6.9
523	651	725	+38.7	Denver	5513	5589	5361	— 2.8
449	568	451	+ 0.5	Des Moines	6191	6267	5875	— 5.1
569	665	448	—21.3	Detroit	6250	6417	5898	— 5.6
575	625	470	—18.3	Grand Rapids	6392	6479	6029	— 5.7
525	598	357	—32.0	Hartford	5821	6198	5822	..
643	623	774	+20.4	Helena	7191	7343	7346	+ 2.2
38	22	36	— 5.6	Houston	1321	1300	1152	—12.8
414	423	376	— 9.2	Indianapolis	5304	5301	5120	—34.6
327	448	326	— 0.3	Kansas City	4865	5104	5516	+13.4
158	184	178	+12.7	Los Angeles	1258	1310	1402	+11.4
302	283	230	—23.8	Louisville	4329	4256	4171	— 3.7
621	733	562	— 9.5	Milwaukee	6615	6820	6565	— 0.8
580	659	634	+ 9.3	Minneapolis	7643	7455	7170	— 6.2
32	40	29	— 9.4	New Orleans	1207	1232	1072	—11.2
467	509	311	—33.4	New York	5094	5271	4758	— 6.6
414	568	454	+ 9.7	Omaha	5922	6236	5648	— 4.6
379	440	264	—30.4	Philadelphia	4615	4801	4752	+ 3.0
448	502	333	—25.7	Pittsburgh	5257	5393	5347	+ 1.7
668	780	542	—18.8	Portland, Me.	6753	7415	6995	+ 3.6
370	372	434	+17.3	Portland, Ore.	3973	3750	3841	— 3.3
543	566	401	—26.2	Providence	5701	5690	5302	— 7.0
305	343	276	— 9.5	St. Louis	4514	4623	4554	+ 0.9
450	533	603	+34.0	Salt Lake City	5335	5905	5366	+ 0.6
269	354	336	+17.5	San Francisco	2317	2199	2748	+18.6
829	881	760	— 8.3	Sault Ste. Marie	8416	8396	8133	— 3.4
440	398	487	+10.7	Seattle	4256	3839	3939	— 7.4
534	654	447	—16.3	Toledo	5976	6480	6091	+ 1.9
345	342	197	—42.9	Washington	4478	4471	4108	— 7.2

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U. S. Department of Labor Fueloil Prices March

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken Mar. 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	10.60	10.40	9.00	9.00
Bridgeport	10.30	..	9.00	9.00
Fall River	..	..	9.70	..
Manchester	11.10	..	9.70	..
New Haven	10.30	..	9.00	..
Portland, Me.	10.20	10.10	9.00	..
Providence	10.30	10.22	9.00	..
Baltimore	..	9.78	9.00	..
Buffalo	10.40	10.40	9.50	9.50
Newark	..	10.25	9.00	9.00
*New York	..	..	9.09	9.09
Philadelphia	..	9.90	8.93	8.91
Rochester	11.00	11.00	9.70	9.70
Washington	..	10.30	9.40	..
**Chicago	7.96	7.45	7.45	7.45
***Cleveland	..	8.55	..	8.03
***Detroit	..	8.45	7.93	7.42
**Des Moines	..	8.36	7.75	7.75
Milwaukee	8.50	8.50	8.00	8.00
Minneapolis	8.40	8.30	8.10	8.10
Omaha	..	8.10	7.60	7.60
St. Louis	8.47	7.83	7.55	7.55
St. Paul	8.30	..	8.10	8.10
***New Orleans	..	8.72	7.21	7.21
Norfolk	..	10.00	8.80	..
Richmond	..	10.30	9.00	..
**Denver	..	8.67	7.14	..
Portland, Ore.	..	7.30	6.30	..
***Seattle	..	7.78	6.75	..

*Price includes 1% sales tax.
**Price includes 2% sales tax.
***Price includes 3% sales tax.

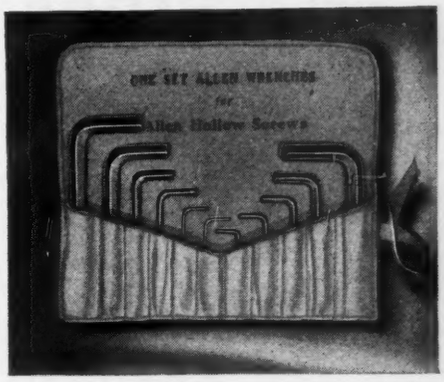
New Building Off 40.7% In First Three Months

ONLY 29,000 new non-farm dwelling units were started in the first quarter this year, compared with 48,900 in the same period of 1944, a decrease of 40.7%. This represents a drop of 75% from the construction started in the first quarter of 1943. Of the 29,000 dwelling units, 22,800 or 78.5% were in one-family structures and 1,600 accounting for another 5.5% of the total were in two-family structures.

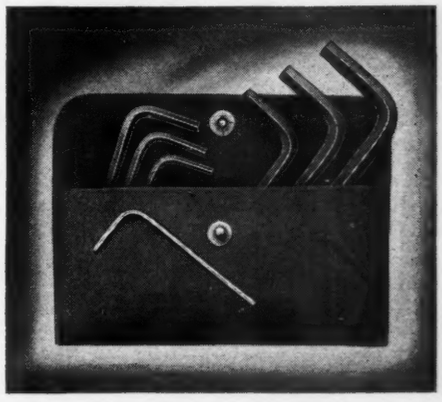
More than nine-tenths of this new residential building is being financed by private funds, compared with three-quarters a year ago. Because of wartime restrictions on non-essential building, the virtual completion of war housing projects, and the continued shortages of labor and materials, all classes showed marked decrease.

ALLEN Key Kits

Key Assortments to fit Hex-Socket Screws in the range of sizes the oil-burner serviceman needs everyday.

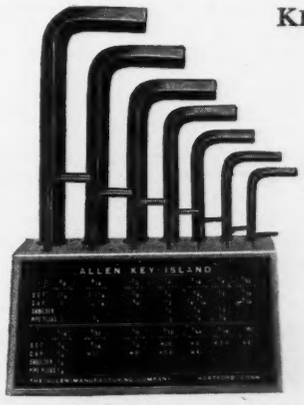


KEY SET No. 603: This canvas partitioned bag contains 11 short arm hexagonal keys which fit all screws from and including No. 10 up to and including 1¼" diameter set screws. List price $1.75.



JUNIOR KEY KIT No. 604: Seven short-arm Allen Keys are included in this strong leatherette envelope. They fit the hex holes of sizes Nos. 8, 10, ¼", 5/16", 3/8", 7/16" and ½" set screws and Nos. 4, 5, 6, 8, 10, also ¼" and 5/16" cap screws. List price $0.50.

KEY ISLAND



This handy key set contains 14 keys fitting all sizes of set screws up to and including 1¼"; cap screws up to 1"; shoulder screws to 1" and pipe plugs to 1". Container is plainly labeled to show the correct size key to use with each screw. No. 615; list price $2.35.

Ask for complete listings **of Allen Hollow Screw Assortments and Key Kits. Address inquiries and orders to Dep't. M,**

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